PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501	23

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION

Signing General Notes

1. ALL SIGNS ARE TO BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE FOLLOWING AND ANY REVISIONS THERETO:
   A. THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
   B. THE VDOT ROAD AND BRIDGE STANDARDS
   C. THE VDOT ROAD AND BRIDGE SPECIFICATIONS
2. UNLESS OTHERWISE APPROVED BY THE ENGINEER OR INDICATED IN THE MAINTENANCE OF TRAFFIC AND SEQUENCE OF CONSTRUCTION PLANS, EXISTING TRAFFIC SIGNS WHICH ARE TO BE RELOCATED SHALL REMAIN IN PLACE UNTIL THE NEW SIGN STRUCTURE IS IN PLACE.
3. THE REMOVAL OR MODIFICATION OF EXISTING SIGN PANELS, STRUCTURES, OR FOUNDATIONS SHALL CONFORM THE SPECIFICATIONS.
4. NEW MATERIALS AND ITEMS REQUIRED TO COMPLETE THE REMOVAL OR MODIFICATION OF EXISTING ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL IN ACCORDANCE WITH THE SPECIFICATIONS.
5. ALL EXISTING AND PROPOSED SIGN LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. ALL PROPOSED SIGN LOCATIONS SHALL BE MODIFIED IN THE FIELD TO AVOID CONFLICT WITH UNDERGROUND UTILITIES OR OTHER OBSTRUCTIONS AND SHALL STAKED BY THE CONTRACTOR AND APPROVED BY THE CRO CONSTRUCTION ENGINEER.
6. DEFINITION OF SYMBOLS:

   A / B — "A" INDICATED TYPE OF STRUCTURE OR SIGN PANEL (SEE 'DEFINITION OF TYPES')
   "B" INDICATES THE MEASUREMENT & PAYMENT ITEM. (SEE 'MEASUREMENT AND PAYMENT ITEMS')

   EXAMPLE:

   SP-1 / A — SIGN PANEL 0-100 SQ. FT.
   REMOVE - DISPOSE SIGN STRUCTURE,TYPE ( )

   STP-1 / B — SINGLE SQUARE TUBE POST
   RELOCATE EXISTING GROUND MOUNTED SIGN PANEL, TYPE ( )

7. IF PERMANENT SIGNS ARE INSTALLED PRIOR TO TIME THEY SHOULD BE DISPLAYED, THEY SHALL BE COMPLETELY COVERED BY A NON-TRANSPARENT MATERIAL.
8. NEW SIGN FACINGS SHALL BE HIGH INTENSITY REFLECTIVE SHEETING.
9. ALL EXISTING SIGNS ARE TO REMAIN UNLESS OTHERWISE NOTED. EXISTING SIGNS WITHIN THE LIMITS OF CONSTRUCTION WHICH HAVE NOT BEEN IDENTIFIED IN THE PLAN SHALL BE RELOCATED OR REMOVED AS DIRECTED BY THE ENGINEER.

MEASUREMENT AND PAYMENT ITEMS

A. REMOVE - DISPOSE SIGN STRUCTURE TYPE ( ).

WILL BE MEASURED IN UNITS OF EACH AND PAID FOR AT THE CONTRACT UNIT PRICE OF EACH, WHICH PRICE SHALL BE FULL COMPENSATION FOR REMOVAL AND DISPOSAL OF SIGN PANEL(S), DISPOSAL OF POSTS, REMOVAL OF FOUNDATIONS TO AT LEAST 2 FEET BELOW EXISTING GROUND LINE AS REQUIRED, BACKFILLING AND RESTORATION (TOPSOILING AND SEEDING), AND FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

B. RELOCATE EXISTING SIGN PANEL, TYPE ( ).

WILL BE MEASURED IN UNITS OF EACH AND PAID FOR AT THE CONTRACT UNIT PRICE OF EACH, WHICH PRICE SHALL BE FULL COMPENSATION FOR REMOVAL AND SALVAGE OF SIGN PANELS, DISPOSAL OF POSTS, REMOVAL OF FOUNDATIONS TO AT LEAST 2 FEET BELOW EXISTING GROUND LINE AS REQUIRED, BACKFILLING AND RESTORATION (TOPSOILING AND SEEDING), REFURBISHING FRAMING MEMBERS, FURNISHING AND INSTALLING NECESSARY BACK PANELS, ERECTING EXISTING SIGN PANEL TO NEW POSTS (POSTS PAID SEPARATELY), AND FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

C. REMOVE - DISPOSE SIGN PANEL, TYPE ( ).

WILL BE MEASURED IN UNITS OF EACH AND PAID FOR AT THE CONTRACT UNIT PRICE OF EACH, WHICH PRICE SHALL BE FULL COMPENSATION FOR REMOVAL AND DISPOSAL OF SIGN PANEL(S), RESETTING ADDITIONAL SIGN PANELS TO REMAIN (IF NECESSARY) AND FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. EXISTING SIGN FOUNDATION(S) AND SUPPORT(S) TO REMAIN AND NOT TO BE DAMAGED

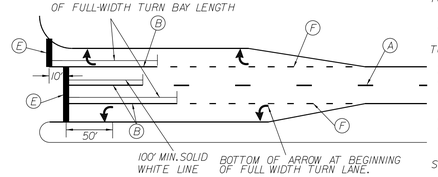
DEFINITION OF TYPES

TYPE	DESCRIPTION	SIZE
SP-1	SIGN PANEL	0-100 S.F
SP-2	SIGN PANEL	101-200 S.F.
SP-3	SIGN PANEL	201-300 S.F.
WP-1	SINGLE WOOD POST	EA
WP-2	DOUBLE WOOD POST	EA
STP-1	SINGLE SQUARE TUBE POST	EA
STP-2	DOUBLE SQUARE TUBE POST	EA
UP-1	SINGLE U-CHANNEL POST	EA
SSP-VA	SINGLE W-BEAM POST	EA
SSP-VIA	DOUBLE W-BEAM POST	EA

Pavement Marking General Notes

1. NEW MATERIALS AND ITEMS REQUIRED TO COMPLETE THE REMOVAL OR MODIFICATION OF EXISTING ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL IN ACCORDANCE WITH THE SPECIFICATIONS.
2. ALL STRIPING, WHERE MATCHING TO EXISTING, SHALL BE DONE IN A MANNER APPROVED BY THE ENGINEER.
3. ALL PAVEMENT MARKINGS ARE TO BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE FOLLOWING AND ANY REVISIONS THERETO:
   A. THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
   B. THE VDOT ROAD AND BRIDGE STANDARDS
   C. THE VDOT ROAD AND BRIDGE SPECIFICATIONS
4. ANY EXISTING PAVEMENT MARKINGS WHICH WILL CONFLICT WITH THE PROPOSED MARKINGS SHALL BE COMPLETELY ERADICATED.
5. ALL TRAVEL LANES SHALL BE STRIPED TO BE 12 FEET WIDE UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER.
6. INTERSECTION STRIPING SHALL BE COORDINATED WITH THE TRAFFIC SIGNAL INSTALLATIONS.
7. STOP LINES SHALL BE 24 INCHES IN WIDTH AND SHALL BE LOCATED AS SHOWN ON THE PLANS.
8. LIMITS SHOWN OF PROPOSED PAVEMENT MARKINGS ARE APPROXIMATE AND SHALL BE MODIFIED IN THE FIELD TO ENSURE THAT PROPOSED PAVEMENT MARKINGS CONTINUE UNTIL EXISTING PAVEMENT MARKINGS CAN BE MATCHED.
9. INSTALL PLASTIC INLAID MARKERS (PIMs) IN ACCOARDANCE WITH SECTION 3D.11 OF THE 2011 VIRGINIA SUPPLEMENT TO THE MUTCD AND VDOT STANDARDS PM-8 AND PM-9.
10. ALL PAVMENT MARKINGS ARE TO BE TYPE B, CLASS I THERMOPLASTIC, UNLESS OTHERWISE SPECIFIED

MARKING DETAILS FOR TURN LANES



TURN LANE ARROWS

TURN LANE ARROWS REQUIRED IN ACCORDANCE WITH THE FOLLOWING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER:

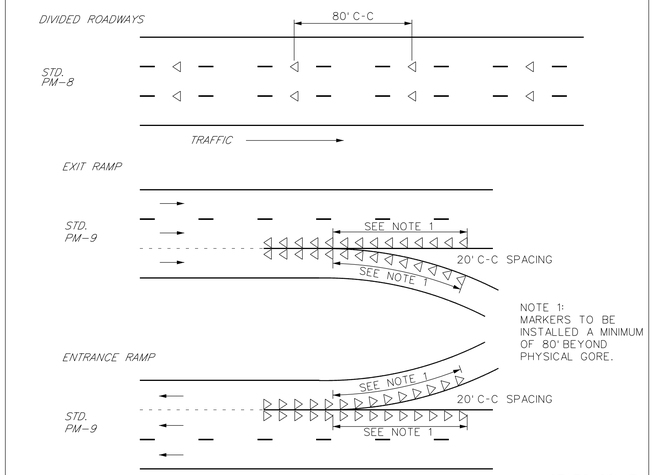
TURN LANE ARROWS
300' OR LONGER: 3 ARROWS
1 ARROW LOCATED AT BEGINNING OF FULL WIDTH TURN LANE.
1 ARROW LOCATED AT MIDPOINT OF FULL WIDTH TURN LANE.
1 ARROW LOCATED 50' BACK FROM STOP LINE OR END OF LANE LINE.

299' OR LESS: 2 ARROWS
1 ARROW LOCATED AT BEGINNING OF FULL WIDTH TURN LANE.
1 ARROW LOCATED 50' BACK FROM STOP LINE OR END OF LANE LINE.

SKIPS
THRU LANES: USE 10' DOTS / 30' SPACING.
TRANSITIONS FOR TURN LANES USE MINI DOTS (2' DOTS / 4' SPACING).
DROP LANES: USE 3' DOTS / 9' SPACING.

NOT TO SCALE

TYPICAL DETAILS FOR PLASTIC INLAID MARKERS (PIMs)



NOT TO SCALE

Index

Signing Legend

DESCRIPTION		SYMBOL
		Prop. / Ex.
SIGN NO. / TEXT NO.		123 / 12
GROUND MOUTNED SIGN STRUCTURES	ONE POST	
	TWO POST	
	THREE POST	
SIGN PANEL		STOP / STOP

Pavement Marking Legend

DESCRIPTION*				WHITE	YELLOW
DASHED LINE - 4"	10'	30'	10'	A	
DASHED LINE - 6"	10'	30'	10'	S	
DASHED LINE - 12"	10'	30'	10'	T	
SOLID LINE - 4"				B	H
SOLID LINE - 6"				N	O
SOLID LINE - 8"				C	I
SOLID LINE - 12"				D	L
SOLID LINE - 24"				E	J
DOTTED LINE - 4"	2' DOT-4' SPACE			F	R
DOTTED LINE - 4"	3' DOT-9' SPACE			G	
DOTTED LINE - 6"	2' DOT-4' SPACE			P	
DOTTED LINE - 6"	3' DOT-9' SPACE			V	
DOTTED LINE - 8"	3' DOT-9' SPACE			M	
DOTTED LINE - 12"	3' DOT-9' SPACE			W	
DBL SOLID LINE - 4"					K
PVT MKG MESSAGE					
PLASTIC INLAID MARKERS					

*NOTE: ALL PAVMENT MARKINGS ARE TO BE TYPE B, CLASS I THERMOPLASTIC, UNLESS OTHERWISE SPECIFIED

PROJECT	SHEET NO.
0064-965-229	23

7/11/2019
1:50:04 PM

T10488923(01).dgn
Plotted By: trydel

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

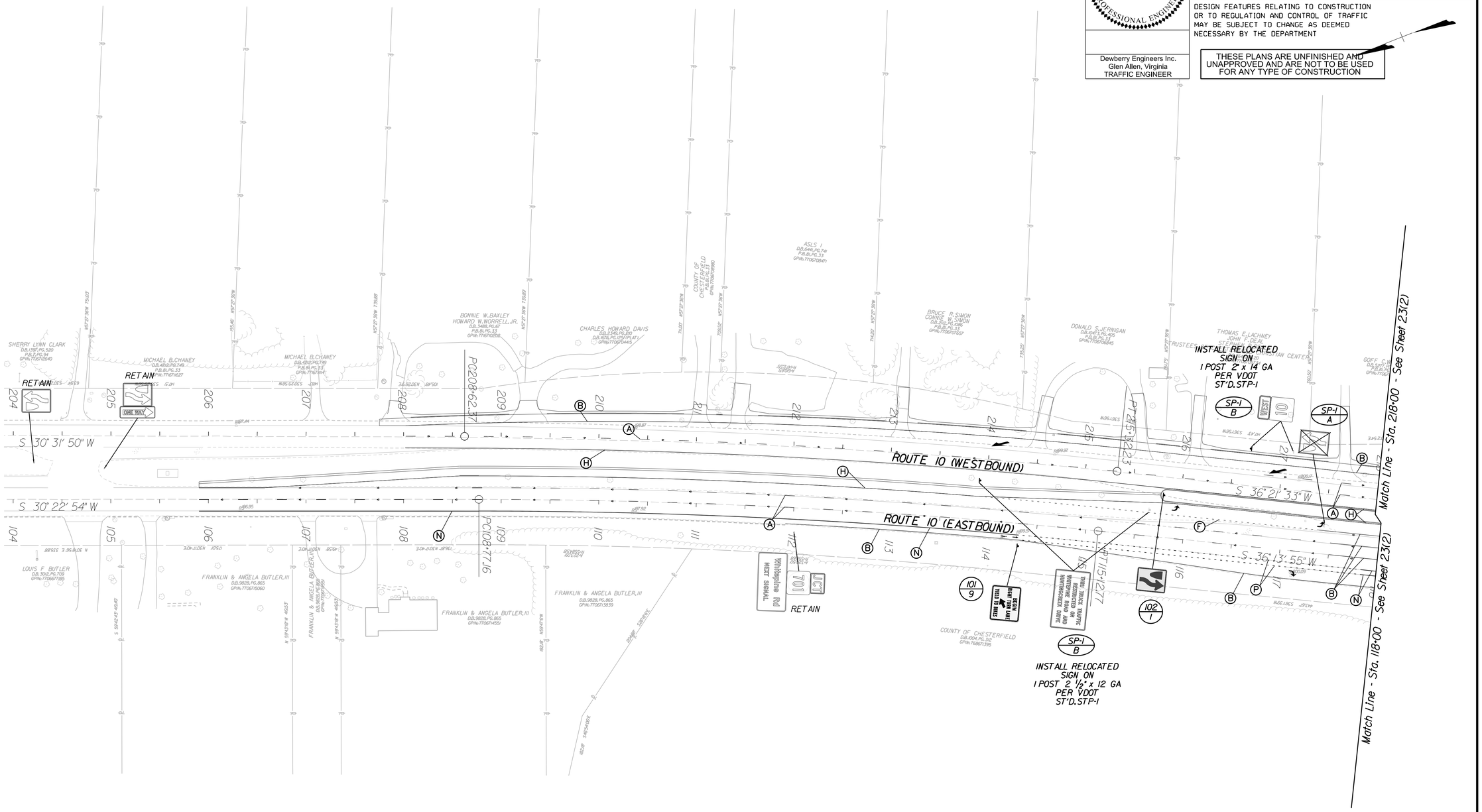
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501 .	23(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-229	23(1)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

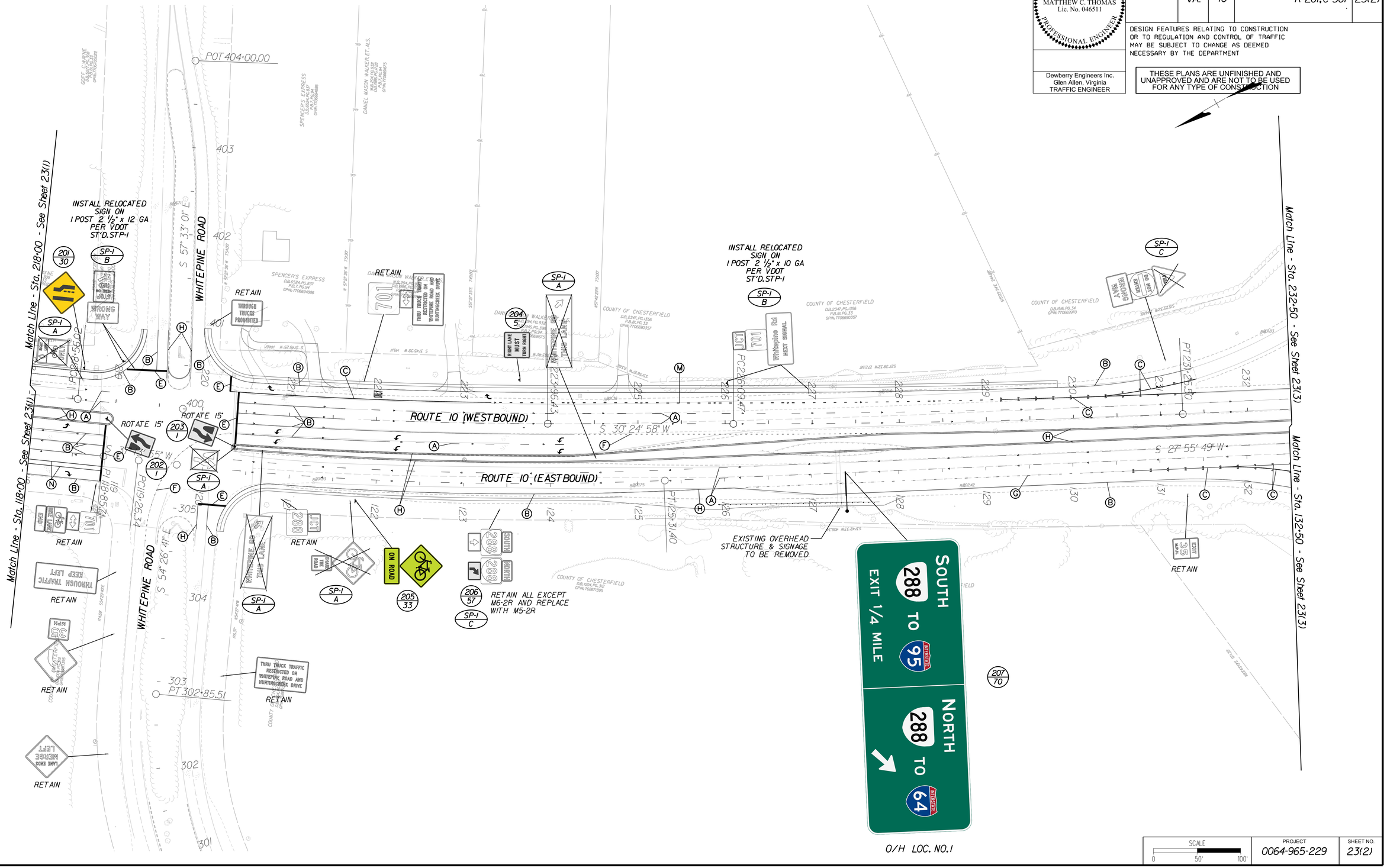
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501 .	23(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-229	23(2)

7/11/2019
1:51:08 PM

T10488923(03).dgn
Plotted By: trydel

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

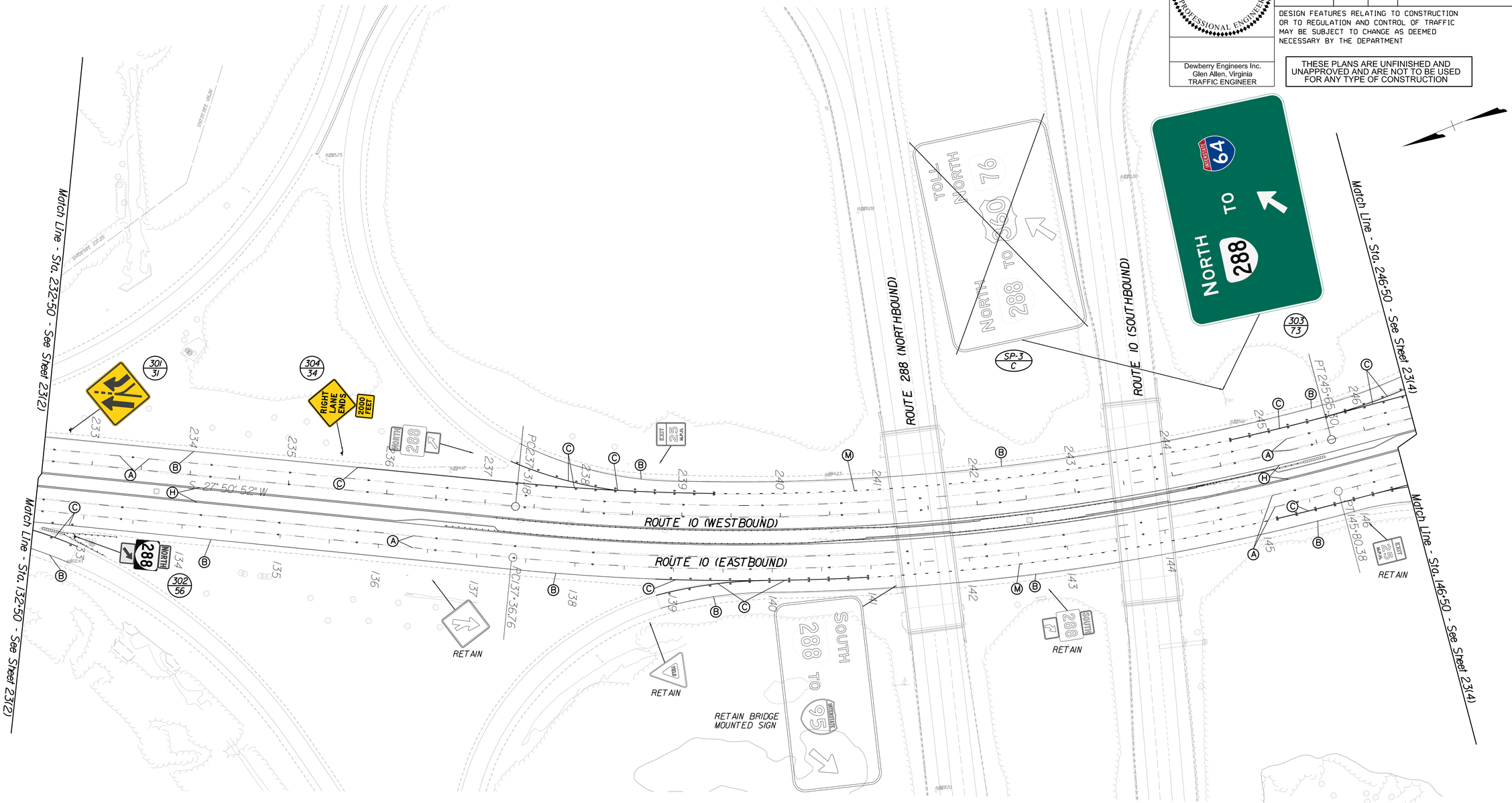
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE		SHEET NO.
		ROUTE	PROJECT	
.	VA.	10	0010-020-688 R-201,C-501 .	23(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-229	23(3)

7/11/2019
1:51:35 PM

T:\0488923\04\dgn
Plotted By: trydel

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

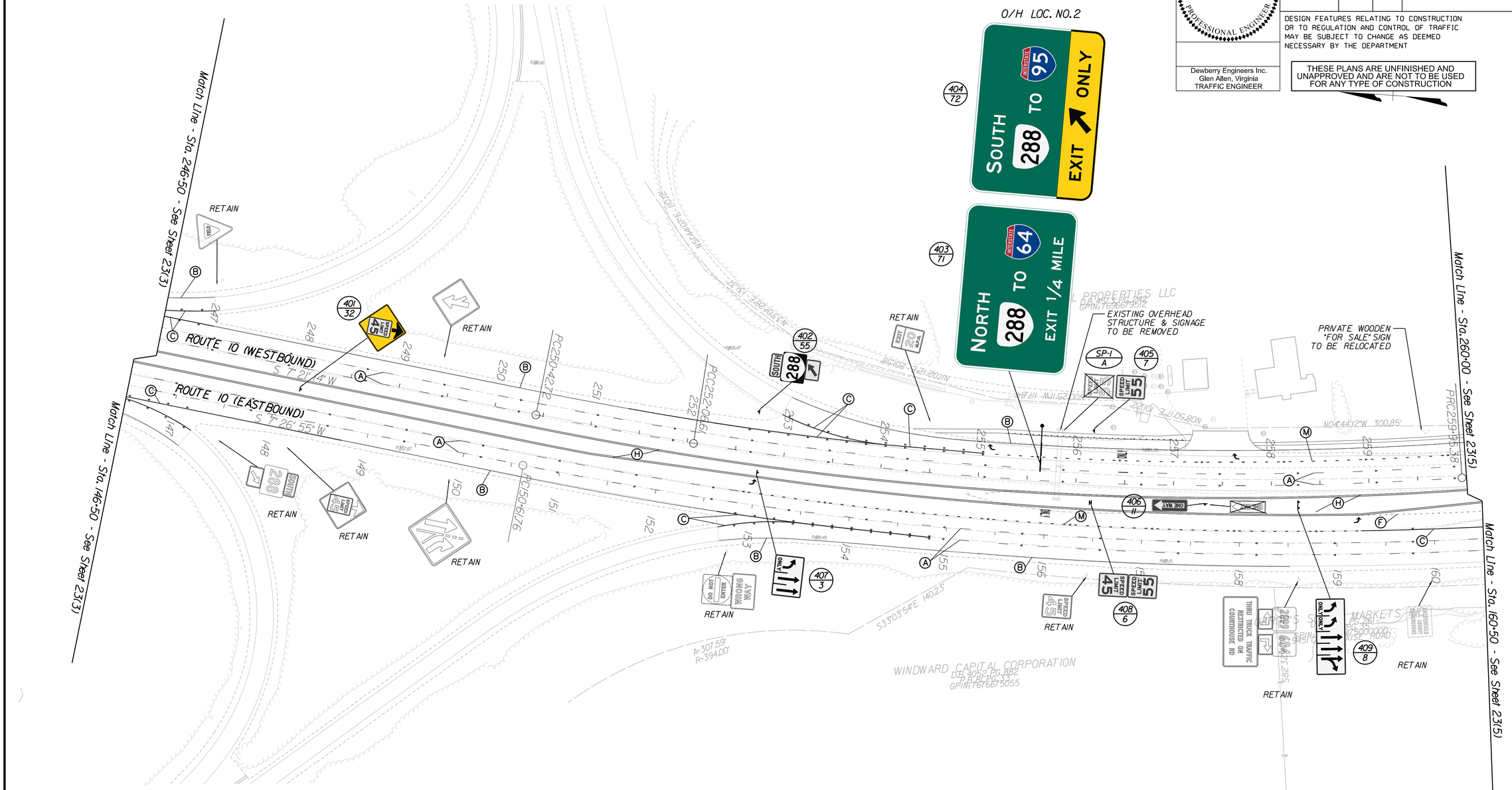
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
-	VA.	10	0010-020-688 R-201,C-501	23(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-229	23(4)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

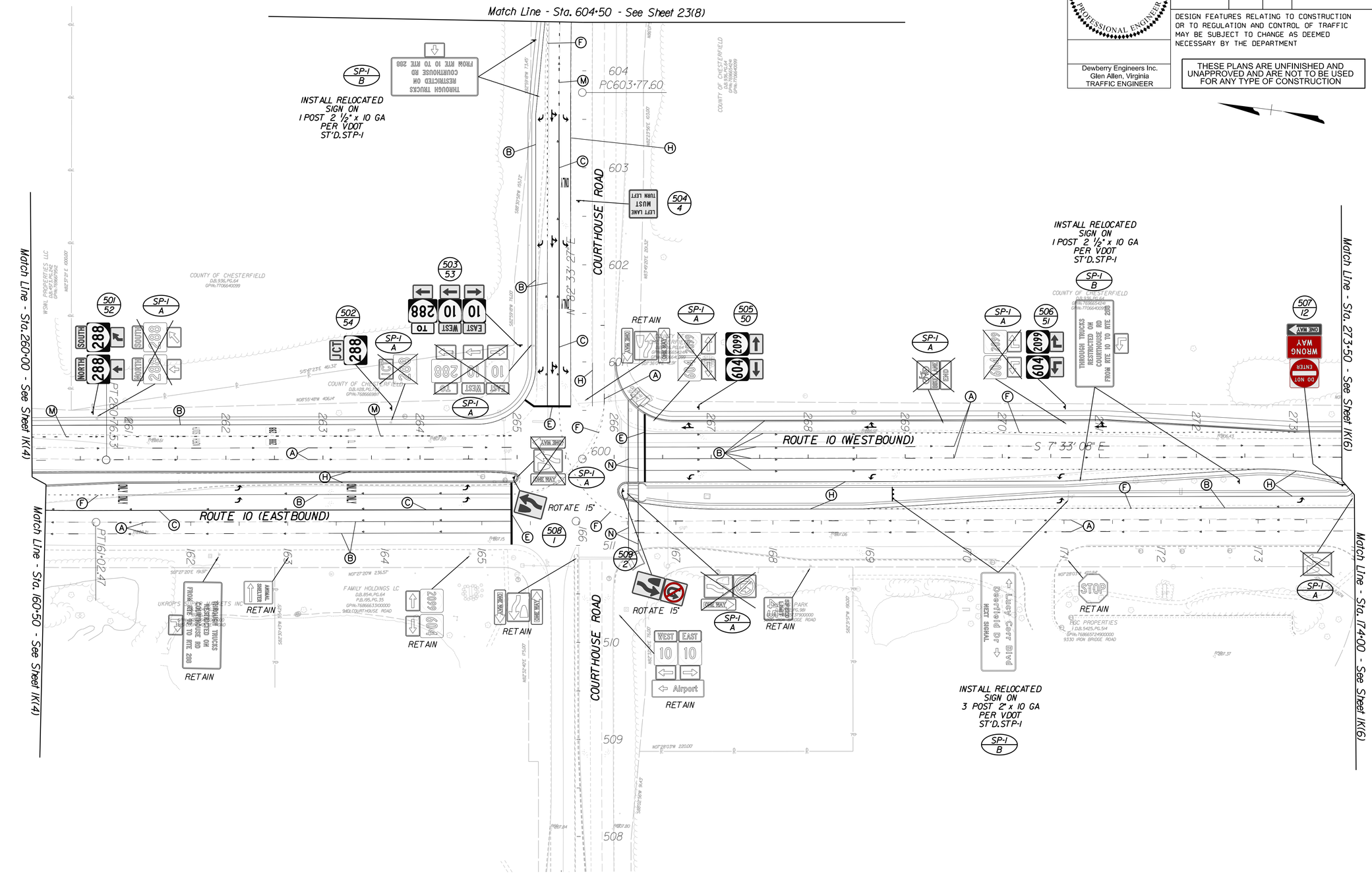
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501	23(5)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



SCALE: 0 50' 100'	PROJECT 0064-965-229	SHEET NO. 23(5)

7/11/2019
1:52:36 PM

T:\0488923\06\dgn
Plotted By: trydel

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

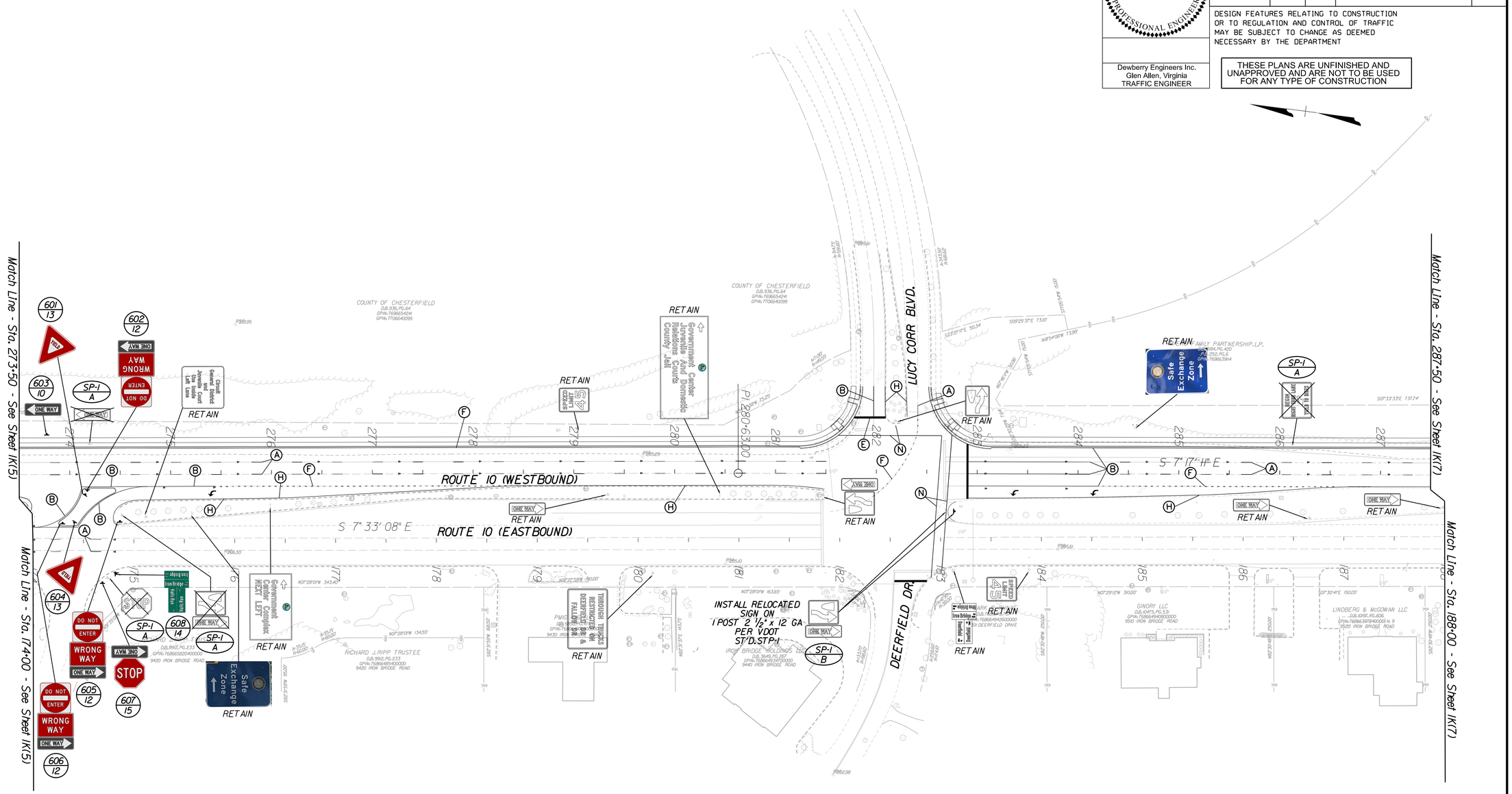
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501	23(6)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



SCALE: 0 50' 100'

PROJECT	SHEET NO.
0064-965-229	23(6)

7/11/2019
1:53:16 PM

T:\0488923\07\1.dgn
Plotted By: trydel

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501 .	23(7)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION

SCALE: 0 50' 100'	PROJECT	SHEET NO.
	0064-965-229	23(7)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

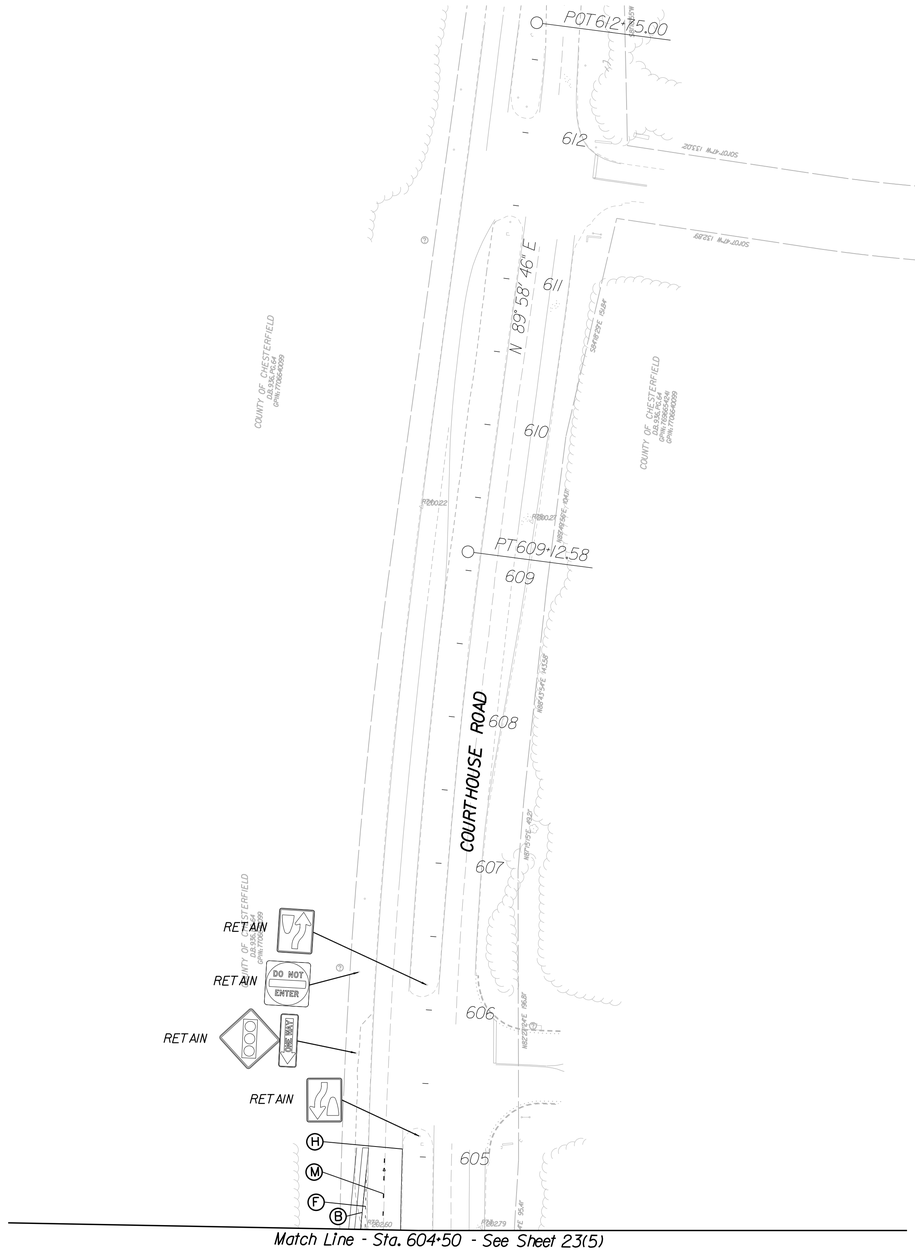
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501 .	23(8)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



Match Line - Sta. 604+50 - See Sheet 23(5)

SCALE: 0 50' 100'	PROJECT	SHEET NO.
	0064-965-229	23(8)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

PERMANENT SIGN SCHEDULE

NOTE: See Sign Plans — (I/T) — I denotes Sign No., T denotes Text No.
Example:

TEXT NO.	TEXT	SIGN NO.	SIGN STRUCT. STD.	PANEL SIZE W	PANEL SIZE H	LETTER TYPE	COLOR COMB.	STD. NO.	QUANTITY	SIGN AREA S.F. EA.	REMARKS
1		102,202,203,508	2 IN. 14 GA.	24	30	L-1 or L-2	C-1	R4-7	4	5.00	
2		509	2½IN. 12 GA.	24 24	24 30	L-1 or L-2	C-21 C-1	R3-4 R4-7	1	9.00	
3		407	2½IN. 12 GA.	42	30	L-1 or L-2	C-1	R3-8	1	8.75	
4		504	2½IN. 12 GA.	36	36	L-1 or L-2	C-1	R3-7L	1	9.00	
5		204,505	2½IN. 12 GA.	36	36	L-1 or L-2	C-1	R3-7R	2	9.00	
6		408	2 IN. 14 GA.	30 30	36 36	L-1 or L-2	C-1	R2-1 R2-1	1	15.00	
7		405	2 IN. 14 GA.	30	36	L-1 or L-2	C-1	R2-1	1	7.50	
8		409	2 IN. 14 GA. (2 POSTS)	78	30	L-1 or L-2	C-1	R3-8	1	16.25	
9		101	2 IN. 14 GA.	36	30	L-1 or L-2	C-1	R4-4	1	7.50	

TEXT NO.	TEXT	SIGN NO.	SIGN STRUCT. STD.	PANEL SIZE W	PANEL SIZE H	LETTER TYPE	COLOR COMB.	STD. NO.	QUANTITY	SIGN AREA S.F. EA.	REMARKS
10		603	2 IN. 14 GA.	54	18	L-1 or L-2	C-16	R6-1L	1	6.75	
11		406	2 IN. 14 GA.	54	18	L-1 or L-2	C-16	R6-1R	1	6.75	
12		507,602,605,606	2½IN. 12 GA.	36 42 36	36 30 12	L-1 or L-2	C-10 C-10 C-16	R5-1 R5-1a R6-1R	4	20.75	
13		601,604	2 IN. 14 GA.	48	48 x 48	L-1 or L-2	C-2	R1-2	2	8.00	
14		607	2 IN. 14 GA.	24	8	L-1 or L-2	C-7	D3-1	1	2.67	
15		607,702	2½IN. 12 GA.	36 36	12 36	L-1 or L-2	C-16 C-10	R6-1L R1-1	2	12.00	
16		701	2 IN. 14 GA.	24	8	L-1 or L-2	C-7	D3-1	1	2.67	

COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501 .	23(09)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION

	PROJECT	SHEET NO.
	0064-965-229	23(09)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

PERMANENT SIGN SCHEDULE

NOTE: See Sign Plans — denotes Sign No.
Example: (1/1) — denotes Text No.

TEXT NO.	TEXT	SIGN NO.	SIGN STRUCT. STD.	PANEL SIZE W	PANEL SIZE H	LETTER TYPE	COLOR COMB.	STD. NO.	QUANTITY	SIGN AREA S.F. EA.	REMARKS
30		201	2½ IN. 12 GA.	36	36	L-1 or L-2	C-8	W4-2R	1	9.00	
31		301	2½ IN. 12 GA.	36	36	L-1 or L-2	C-8	W4-3R	1	9.00	
32		401	2½ IN. 12 GA.	36	36	L-1 or L-2	C-8	W3-5	1	9.00	
33		205	2½ IN. 12 GA.	36 42	36 18	L-1 or L-2	C-24	W11-1 W11-VP2	1	14.25	
34		304	2½ IN. 12 GA.	36 24	36 18	L-1 or L-2	C-8	W9-1R W16-2P	1	12.00	
50		505	2½ IN. 12 GA.	24 21	24 15	L-1 or L-2	C-1	M1-V2a, M1-V2c M6-1L, M6-1R	1	12.38	
51		506	2½ IN. 12 GA.	24 21	24 15	L-1 or L-2	C-1	M1-V2a, M1-V2c M5-1L, M5-1R	1	12.38	
52		501	2½ IN. 12 GA.	24 30 21	12 24 15	L-1 or L-2	C-1	M3-1, M3-3 M1-V1c M6-1L, M5-2R	1	18.38	
53		503	2½ IN. 10 GA. (2 POSTS)	24 24, 30 21	12 24 15	L-1 or L-2	C-1	M3-2, M3-4, M4-5 M1-V1a, M1-V1c M6-1L, M6-1R	1	25.56	
54		502	2 IN. 14 GA.	24 30	12 24	L-1 or L-2	C-1	M2-1 M1-V1c	1	7.00	

TEXT NO.	TEXT	SIGN NO.	SIGN STRUCT. STD.	PANEL SIZE W	PANEL SIZE H	LETTER TYPE	COLOR COMB.	STD. NO.	QUANTITY	SIGN AREA S.F. EA.	REMARKS
55		402	2½ IN. 12 GA.	24 21	24 15	L-1 or L-2	C-1	M1-V2a, M1-V2c M6-1L, M6-1R	1	12.38	
56		302	2½ IN. 12 GA.	24 21	24 15	L-1 or L-2	C-1	M1-V2a, M1-V2c M6-1L, M6-1R	1	12.38	
57		206	EXISTING	21	15	L-1 or L-2	C-1	M5-2R	1	12.38	EXISTIGN M6-2R TO BE REMOVED AND PROPOSED M5-2R TO BE MOUNTED IN SAME LOCATION.
70		207	O/H LOC. NO. 1	28'-0"	10'-0"	L-3	C-7	SPEC. DES.	1	280.00	
71		403	O/H LOC. NO. 2	14'-0"	9'-6"	L-3	C-7	SPEC. DES.	1	133.00	
72		404	O/H LOC. NO. 2	14'-0"	10'-6"	L-3	C-7, C-8	SPEC. DES.	1	147.00	
73		303	EXISTING	18'-0"	11'-6"	L-3	C-7	SPEC. DES.	1	207.00	EXISTING VDOT ST'D SPP-V1A, TYPE AB FOUNDATION TO BE REUSED.

MATTHEW C. THOMAS
Lic. No. 046511
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201, C-501	23(10)

PROJECT	SHEET NO.
0064-965-229	23(10)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

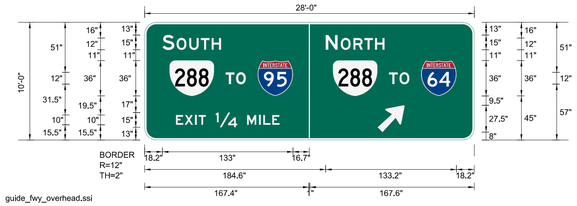
Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501 .	23(11)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION

SIGN DETAIL
1:75



Panel Style: guide_fwy_overhead.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

SIGN NUMBER	OH LOC. NO. 1				
WIDTH x HGHT.	28'-0" x 10'-0"				
BORDER WIDTH	2"				
CORNER RADIUS	12"				
MOUNTING	Overhead				
BACKGROUND	TYPE: Reflective				
	COLOR: Green / Green				
LEGEND/BORDER	TYPE: Reflective				
	COLOR: White/White				

SYMBOL	ROT	X	Y	WID	HT
VG2A3	0	25.6	45	45	36
M1_1	0	115.2	45	36	36
VG2A3	0	192	45	45	36
M1_1	0	281.8	45	36	36
AR_Type A	315	237.5	8	22.2	34.9

LETTER POSITIONS (X)

S	O	U	T	H																										LENGTH	SERIES/SIZE
18.2	32.6	45.4	57.2	68.2																										59.8	E 2000 15,12
N	O	R	T	H																											E 2000
184.6	199.9	212.7	223.8	234.8																										60	15,12
T	O																														EM 2000
82.6	93.1																													20.6	12
T	O																														E 2000
249.1	259.7																													20.8	12
E	X	I	T	1/4	M	I	L	E																							E 2000
31.9	40.8	51.5	55	72.5	104.4	116.4	120.8	130																						105.7	10,15

SIGN DETAIL
1:75

Panel Style: guide_fwy_overhead.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

SIGN NUMBER	WB GROUND MOUNTED
WIDTH x HGHT.	18'-0" x 11'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
VG2A3	0	36.9	58	45	36
M1_1	0	150.6	58	36	36
AR_Type A	315	94.3	18.5	22.2	34.9

LETTER POSITIONS (X)

N	O	R	T	H																										LENGTH	SERIES/SIZE
29.4	44.7	57.5	68.6	79.6																										59.9	E 2000 15,12
T	O																														E 2000
105.9	116.5																													20.8	12

SIGN DETAIL
1:75

Panel Style: guide_exp_overhead.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

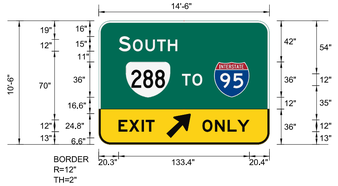
SIGN NUMBER	OH LOC. NO. 2 (1 OF 2)
WIDTH x HGHT.	14'-0" x 9'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
VG2A3	0	24.9	36	45	36
M1_1	0	114.6	36	36	36

LETTER POSITIONS (X)

N	O	R	T	H																										LENGTH	SERIES/SIZE
17.4	32.7	45.5	56.6	67.6																										59.9	E 2000 15,12
T	O																														E 2000
81.9	92.5																													20.8	12
E	X	I	T	1/4	M	I	L	E																							E 2000
34.9	43.8	54.5	58	75.5	107.5	119.5	123.9	133.1																						105.7	10,15

SIGN DETAIL
1:75



Panel Style: guide_exp_overhead.ssi
Dimensions are in inches.tenths
Letter locations are panel edge to lower left corner

SIGN NUMBER	OH LOC. NO. 2 (2 OF 2)
WIDTH x HGHT.	14'-6" x 10'-6"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black/White/White

SYMBOL	ROT	X	Y	WID	HT
VG2A3	0	27.8	48	45	36
M1_1	0	117.8	48	36	36
AR_Type A	315	69	6.6	20	31.5

LETTER POSITIONS (X)

S	O	U	T	H																										LENGTH	SERIES/SIZE
20.4	34.8	47.7	59.4	70.5																										59.8	E 2000 15,12
T	O																														E 2000
84.8	95.5																													20.8	12
E	X	I	T																												E 2000
20.3	30.9	43.8	48																											36.7	12
O	N	L	Y																												E 2000
105.8	118.6	131.4	141.4																											47.9	12

AS SHOWN	PROJECT 0064-965-229	SHEET NO. 23(11)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Dewberry Engineers Inc. - (804) 205-3340
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNING & PAVEMENT MARKING PLAN

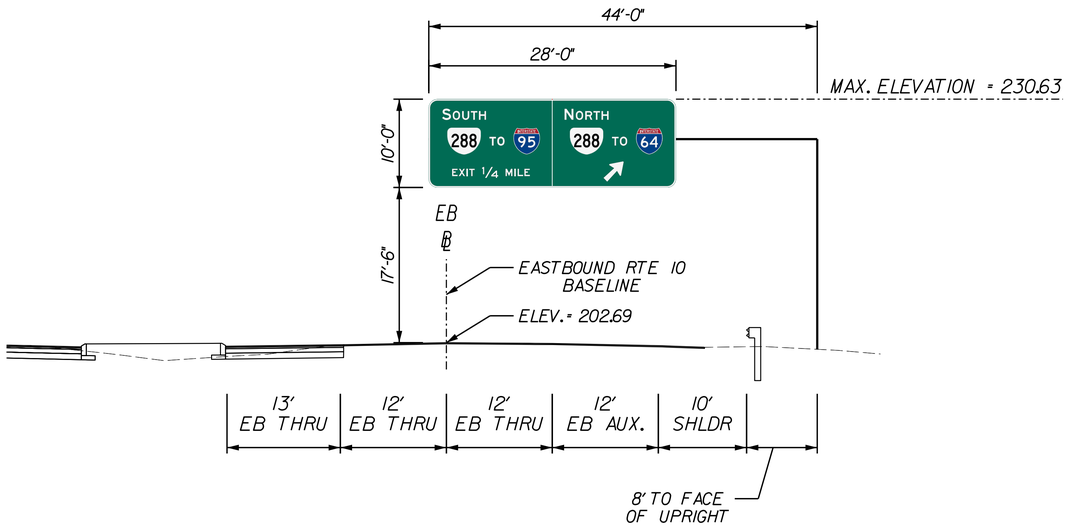
COMMONWEALTH OF VIRGINIA
MATTHEW C. THOMAS
Lic. No. 046511
PROFESSIONAL ENGINEER

Dewberry Engineers Inc.
Glen Allen, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
.	VA.	10	0010-020-688 R-201,C-501 .	23(12)

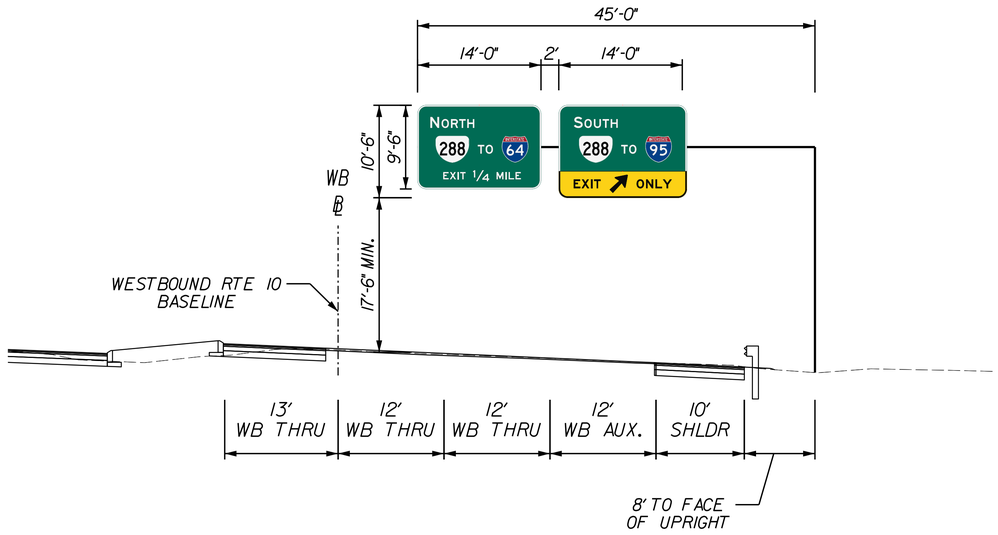
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



OH LOC. NO. 1 — EB RTE 10

Sta. 127+39.00



OH LOC. NO. 2 — WB RTE 10

Sta. 255+62.50

NOTE: ALL OHERHEAD SIGNS AND FOUNDATIONS TO BE INSTALLED PER VDOT ST'D. OSS-1

N.T.S.	PROJECT 0064-965-229	SHEET NO. 23(12)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Ramey Kemp & Associates - (804) 217-8560
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

SIGNALIZATION PLAN

RTE.10 (IRONBRIDGE ROAD) WIDENING PROJECT
RTE.701 (WHITEPINE ROAD) TO RTE.655 (FRITH LANE)
CHESTERFIELD COUNTY, VIRGINIA
INDEX OF SHEETS, GENERAL NOTES & LEGEND OF SYMBOLS

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Ramey Kemp & Associates, Inc.
Richmond, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	10	0010-020-688,C501	24

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

INDEX OF SHEETS

GENERAL NOTES - TRAFFIC SIGNAL

General Signal

1. The following items and operations shall conform to the standard listed below:
   a. Pedestrian Pushbutton — PA-2 or PA-4
   b. Signal Pole Foundation — PF-8
   c. Conduit Installation — ECI-1 or Bored
   d. Signal Head Hangers — SM-3
   e. Junction Boxes — JB-S2, JB-S3
   f. Controller Cabinet Foundation — CF-5
   g. Electrical Service — SE-5

2. All traffic signal work shall be in conformance with the most current version of the following documents or revisions thereof:
   a. Manual on Uniform Traffic Control Devices (MUTCD)
   b. Virginia Supplement to the Manual on Uniform Traffic Control Devices
   c. VDOT Road and Bridge Standards
   d. VDOT Road and Bridge Specifications and Supplement
   e. VDOT Work Area Protection Manual
   f. All special provisions supplemental specifications and special provision copied notes included in the Contract

3. Pavement markings shown on the Signal Plans are for representational purposes only. Actual pavement markings shall be in accordance with the Pavement Marking Plans

4. The Contractor shall immediately report all discrepancies between the plans and Contract Specifications to the Engineer for clarification.

5. The Contractor shall be responsible to return all disturbed areas, landscaping (trees, shrubs, flowers, etc.) and fencing to their original state at the completion of all work. All costs for this work shall be included in the bid price for other items and no separate measurement and payment will be made.

6. All utility locations shown on these plans are approximate and may not be accurate or complete. The Contractor shall be responsible for ensuring that all utilities within the project limits are identified and located before beginning work. The Contractor shall comply with the Virginia "Underground Utility Damage Prevention Act" and the State Corporation Commission's "Rules for Enforcement of the Act." If the Contractor is aware of any utilities within the project limits that are not identified by the notification center, the Contractor shall contact the utility owner(s) at least 72 hours prior to any excavation. The Contractor shall contact VDOT Richmond District Asset Management to determine the extent and location of VDOT owned equipment within the project limits. If the Contractor perceives a conflict between utilities and the proposed work, the Contractor shall notify the engineer immediately so the conflict may be reviewed.

7. The Contractor shall be responsible for repairing or replacing, at their own expense, any existing utilities, pavement, concrete items, etc. that are damaged or disturbed during construction.

8. Final inspection by VDOT personnel of the traffic signals will not be conducted until all traffic signal work is complete. VDOT Richmond District Asset Management shall be notified directly when the Contractor is ready for the traffic signal work to be inspected.

9. Once traffic signal construction begins, the Contractor will assume complete maintenance responsibility. Once traffic signal work and final inspection are complete and the thirty (30) day test period has been satisfied, VDOT will assume maintenance.

10. The Contractor is responsible for maintaining existing communication between the traffic signal controller and the VDOT Richmond District TOC at all times during construction. The Contractor shall contact VDOT Central Region Operations for coordination.

11. Should the signal Contractor require copies of existing traffic signal plans, contact VDOT Richmond District Traffic Engineering.

12. All signal timings, including clearance timings and timing for all construction phases (if applicable) shall be provided to VDOT Central Region Operations for review and approval for implementation at least four (4) weeks prior to signal activation.

13. All catalog cuts/shop drawings for equipment and material shall be submitted to VDOT Richmond District Traffic Engineering for review and approval.

14. All equipment is to be installed within the existing or proposed right of way or easement.

15. Contractor shall contact VDOT Richmond District Asset Management 72 hours prior to the commencement of construction.

16. The traffic signal will not be placed into flashing or full color operation without the prior notification and approval from VDOT Richmond District Asset Management and Richmond District Traffic Engineering. No traffic signal shall be placed into operation until the location is 100% complete. This includes any necessary pavement marking and signage adjustment shown on the plans. The Contractor shall notify the ACE/CM who shall notify VDOT Richmond District Asset Management. VDOT Richmond District Asset Management requires a minimum of 48 hours advance notice.

Conduit, Cable, and Electrical

17. Conduit shall be bonded in accordance with Section 700 of the Road and Bridge Specifications. Equipment grounding conductors (EGC) noted in the Conduit and Cable Legend are required to provide a bonded system.

18. Conduits to be abandoned shall be capped and all cables removed.

19. All unused wire in signal heads shall be capped individually using crimp type caps.

20. The Contractor shall label all wires (including spares) in the controller cabinet in accordance with Section 703 of the Road and Bridge Specifications.

21. All spare conduits, installed per the latest VDOT signal pole and controller cabinet foundation standards, that originate from the pole or controller cabinet foundations shall be connected to the nearest junction box.

22. Conduit locations shall be marked on all foundations per the VDOT Road and Bridge Specifications for each conduit installed.

23. Contractor shall verify the location of the proposed conduits and make field adjustments as necessary and approved by the Engineer.

24. The Contractor shall provide documentation of the testing of ground rods and grounding system to VDOT Richmond District Asset Management. Contact VDOT Richmond District Asset Management 48 hours prior to testing ground rods and grounding system.

25. The electrical service connection and service line locations may be field adjusted as necessary provided all equipment remains within right of way or proposed easement, does not conflict with utilities, remains outside the pavement sections, and remains within a maximum distance of 20' from the controller cabinet.

26. Contractor to contact VDOT Richmond District Traffic Engineering a minimum of thirty (30) days in advance for electrical service requests.

Detectors

27. All new loop detectors installed for stop bar detection shall be placed 2' in front of the stop bar and operate in the non-lock mode. All 6' x 6' loop detectors shall be installed at the distances specified on the plans.

28. The location of video detection equipment and zones shown on the plans are approximate. Contractor shall coordinate location of video detection equipment with VDOT Richmond District Asset Management prior to final placement of video detection cameras.

29. Vehicle detection shall be maintained during all phases of construction.

Signal Poles, Mast Arms, and Arm Equipment

30. The Contractor shall verify mast arm lengths and signal head lane coverage prior to the installation of signal pole foundations.

31. All poles shall be field staked by the Contractor and inspected by the Engineer and Contractor per Section 700.05 prior to installation of foundations.

32. Emergency preemption detectors and video detectors shall be located as shown on the plans, however, may be field adjusted as necessary to provide optimal detection capabilities. Wiring shall be adjusted as necessary if the detector locations are modified. The Contractor shall contact VDOT Richmond District Asset Management with any questions regarding OPTICOM.

33. During construction and when not in use, new traffic signal heads including high visibility backplates and overhead traffic signal signage shall be covered with a durable non-transparent cover upon installation. The Contractor shall maintain covers until the new traffic signal system is operational, per Section 703.03.

34. Traffic signal heads and mast arm signs may be field adjusted no more than 2' in either direction on the mast arms, provided they remain within the designated travel lane assignments. If further adjustment is needed, the Contractor shall contact VDOT Richmond District Traffic Engineering.

35. Traffic signal heads (vehicle and pedestrian) shall be cast aluminum. All vehicle signal heads shall have aluminum composite high visibility backplates. All traffic signal heads sections shall be LED.

Junction Boxes

36. Location of junction boxes are approximate and to be field reviewed by the Contractor for final placement. Junction boxes may be relocated (with approval by the Engineer) in the field as necessary provided they remain within the right of way, do not conflict with utilities, and remain outside the pavement sections. Any junction box relocated within the sidewalk shall be flush with the sidewalk and trip resistant.

Signing

37. Flashing Beacon Notes:
   a. Proposed flashing beacons shall conform to VDOT Road and Bridge Standard FB-2
   b. The VDOT Road and Bridge Standard SSP-VA sign support for the flashing beacon shall conform to "Median Only Installation" detail shown on VDOT Road and Bridge Standard SSP-VA.
   c. Sign panel design shall conform to VDOT Road and Bridge Standard SPD-6.

Pole Foundations

38. Signal pole foundations may be field adjusted within the designated corners no more than 2' in any direction from the plan locations, provided the revised foundation locations:
   a. Remain out of the clear zone and pavement sections.
   b. Remain within the right of way or proposed easement.
   c. Does not conflict with utilities.
   d. Does not limit sight distance.
   e. Does not affect drainage.
   f. Allow the signal heads to be adjusted within the same alignment with the designated travel lanes as shown on the plans, and is in accordance with the PF-8 Concrete Foundation Standard detail referenced to the installation.

39. Signal pole foundations shall be designed in accordance with VDOT signal pole foundation standards, Special Provisions including maximum loading conditions, and based on soil test bore findings. All traffic signal pole foundation designs shall be signed and sealed by a Virginia licensed Professional Engineer and approved by VDOT. The top of all signal pole foundations should be installed such that minimum and maximum clearances to signal heads and mast arm equipment are maintained in accordance with the mast arm signal pole standard and the MUTCD.

Controller Cabinet and Foundation

40. The controller cabinet and foundation may be relocated within the designated corner provided it remains within the right of way or proposed easement, outside of the clear zone and pavement sections, does not conflict with utilities, does not limit sight distance, and is in accordance with the controller cabinet detail referenced in the installation.

41. Contact VDOT Central Region Operations 72 hour notice in advance of disconnecting the controller communication for any reason.

42. The signal design engineer shall provide all signal and clearance timings for this project.

Points of Contact

VDOT Richmond District Asset Management
Contact: Donald Logan
Phone: 804.524.6194

VDOT Central Region Operations
Contact: Kawkeb Said
Phone: 804.796.4122

VDOT Richmond District Traffic Engineering
Contact: Robert Cochrane
Phone: 804.524.6112

LEGEND

ABBREVIATIONS:

- EXISTING CONDUIT
- FENCE LINE
- OVERHEAD POWER LINE
- PROPOSED BUFFER
- PROPOSED CONDUIT
- PROPOSED EASEMENT
- PROPOSED SETBACK
- PROPOSED STORM DRAIN
- PROPOSED WATER LINE
- RIGHT-OF-WAY
- STORM LINE
- TREE LINE
- UNDERGROUND COMMUNICATION LINE

SYMBOLS:

- COMMUNICATION LINE MANHOLE
- CONDUIT LABEL
- EXISTING CAMERA DETECTOR
- EXISTING CF-1 FOUNDATION
- EXISTING CONTROLLER CABINET
- EXISTING JUNCTION BOX
- EXISTING MAST ARM SIGN
- EXISTING METAL POLE AND FOUNDATION
- MB — EXISTING METER BASE
- SS — EXISTING SAFETY SWITCH
- EXISTING SIGNAL HEAD
- EXISTING SIGNAL HEAD LABEL
- EXISTING TREE
- VDZ — EXISTING VIDEO DETECTION ZONE
- E — EXISTING WIRELESS ANTENNA
- GUY WIRE
- JUNCTION BOX LABEL
- METAL POLE LABEL
- MONUMENT SIGN
- POWER POLE
- PROPOSED ATC CABINET WITH CF-5 FOUNDATION
- PROPOSED JUNCTION BOX
- PROPOSED LIGHT POLE
- PROPOSED LUMINAIRE
- PROPOSED MAST ARM SIGN
- PROPOSED METAL POLE AND FOUNDATION
- PROPOSED SIGNAL HEAD
- PROPOSED SIGNAL HEAD LABEL
- PROPOSED STREET NAME SIGN
- PROPOSED UNINTERRUPTIBLE POWER SUPPLY
- PROPOSED VIDEO DETECTOR
- PROPOSED VIDEO DETECTION ZONE
- SIGN
- S- — SIGN LABEL
- STORM DRAIN INLET
- STORM LINE MANHOLE
- UNDERGROUND COMMUNICATION BOX
- VDC- — VIDEO DETECTOR LABEL
- PROPOSED 360° VIDEO DETECTION CAMERA

PROJECT	SHEET NO.
0010-020-688,C501	24

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Ramey Kemp & Associates - (804) 217-8560
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Ramey Kemp & Associates, Inc.
Richmond, Virginia
TRAFFIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	10	0010-020-688,C501	24(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

TCD DISCIPLINE		SIGNALS																												
SUMMARY NOTES											②					④	④													
ITEM NO.		25' SIGNAL POLE MAST ARM (TYPE D) 8-BOLT	25' SIGNAL POLE MAST ARM (TYPE E1) 8-BOLT	MAST ARM 75'	MAST ARM 70'	MAST ARM 65'	MAST ARM 60'	MAST ARM 49'	MAST ARM 40'	TEST BORE	PF-8 FOUNDATION	PEDESTAL POLE PF-2 (12')	PF-2 FOUNDATION	PEDESTAL POLE PA-4 (6')	PA-4 FOUNDATION	ATC CABINET (16 INPUTS)	ATC CONTROLLER	CF-5 FOUNDATION	ELECTRICAL SERVICE GROUNDING ELECTRODE (10')	ELECTRICAL SERVICE SE-5	ELECTRICAL SERVICE WORK PAD	VIDEO DETECTION SYSTEM (360 DEGREE CAMERA PROCESSOR)	VIDEO DETECTION (360 DEGREE CAMERA)	VIDEO DETECTION (ADVANCED APPROACH CAMERA)	TRAFFIC SIGNAL HEAD SECTION 12" LED WITH HVSB	SIGNAL HANGER ASSEMBLY SM-3 (ONE WAY)	SIGN PANEL	SIGN HANGER (SMB-2) ONE WAY	EMERGENCY VEHICLE PREEMPTION DETECTION (4-WAY)	PEDESTRIAN SIGNAL HEAD, SP-9	PEDESTRIAN SIGNAL HANGER ASSEMBLY SMB-3 (ONE WAY)	ACCESSABLE PED PUSH BUTTON (PA-2)
UNIT		51479	51480	00000	00000	00000	51488	51487	00000	56205	51238	51212	51240	00000	00000	00000	00000	00000	56014	51170	55385	00000	00000	51507	51184	51830	50108	51834	51524	52404	51838	51198
SHEET NO.		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	S.F.	EA.	EA.	EA.	EA.	EA.
RTE.10 (IRONBRIDGE RD.) & RTE.701 (WHITEPINE ROAD)	24(3)	1	2	1	0	1	0	1	0	3	28	0	0	0	0	1	1	1	5	1	1	1	2	2	34	11	110	8	1	0	0	0
RTE.10 (IRONBRIDGE RD.) & RTE.604 (COURTHOUSE ROAD)	24(4)	1	2	1	0	0	1	1	0	3	28	1	1	1	1	1	1	1	5	1	1	1	2	2	39	11	108	9	1	2	2	3
RTE.10 (IRONBRIDGE RD.) & DEERFIELD DR./ LUCY CORR BLVD.	24(5)	2	1	0	1	0	0	1	1	3	28	3	3	0	0	1	1	1	5	1	1	1	2	1	26	8	94	6	1	4	4	4
TOTAL		4	5	2	1	1	1	3	1	9	84	4	4	1	1	3	3	3	15	3	3	3	6	5	99	30	312	23	3	6	6	7

SUMMARY NOTES:

① Included in the cost of this item is any shifting of signal heads or signs, and any other adjustments / modifications needed for the intersection during construction. It is anticipated that signalization can be maintained through use of the existing and / or proposed permanent signal equipment; however, any temporary wood poles, span wire, or other temporary signal equipment necessary to maintain signalized operations shall be included in the cost of this item. Contractor shall be responsible for adjusting signal timings during lane closures under all phases of construction to minimize queueing at the intersection as directed by the Engineer.

② Soil analysis and foundation designs have not been performed. This pay item assumes each PF-8 foundation will be approximately 4 feet in diameter and 20 feet in depth.

③ Assumes four portable message boards will be used for a duration of 7 days.

④ New controller cabinet shall be TS-2 with Siemens M-50 controller set on the new CF-5 cabinet foundation (no UPS).

	PROJECT	SHEET NO.
	0010-020-688,C501	24(1)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Ramey Kemp & Associates - (804) 217-8560
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	10	0010-020-688,C501	24(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Ramey Kemp & Associates, Inc.
Richmond, Virginia
TRAFFIC ENGINEER

TCD DISCIPLINE	SIGNALS																														
SUMMARY NOTES																①			③												
ITEM NO.	PORT EXPANDER MODULE	5.8 GHZ WIRELESS RADIO	3" BORED CONDUIT	3" CONDUIT	2" CONDUIT	1 1/2" METAL CONDUIT	#8 CONDUCTOR CABLE	14/7 CONDUCTOR CABLE	14/4 CONDUCTOR CABLE	14/2(S) CONDUCTOR CABLE	EMERGENCY PREEMPTION DETECTOR CABLE	CAT6 CONDUCTOR CABLE (VIDEO)	TRENCH EXCAVATION EC1-1	JUNCTION BOX JB-S3	JUNCTION BOX JB-S2	MAINTENANCE OF TRAFFIC	VPN ROUTER	MANAGED FIELD ETHERNET SWITCH	PORTABLE MESSAGE BOARDS	REMOVE EXISTING POLE	REMOVE EXISTING FOUNDATION	TRAFFIC SIGNAL HEAD SECTION 12" LED WITH HVSB (RETROFIT)	REMOVE EXISTING CONTROLLER	REMOVE EXISTING JUNCTION BOX	REPEATER BOARD ASSEMBLY							
UNIT	00000	57192	56051	56054	56053	56028	51598	51607	51602	51700	51525	51508	56200	55588	55587	00000	00000	00000	00000	51933	51934	51184	51936	51937	00000						
SHEET NO.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	L.S.	EA.	EA.	HR.	EA.	EA.	EA.	EA.	EA.	EA.						
RTE.10 (IRONBRIDGE RD.) & RTE.701 (WHITEPINE ROAD)	24(3)	1	1	950	100	100	2	50	1,600	0	0	100	1,050	55	1	2	1	1	1	672	3	3	2	1	7	1						
RTE.10 (IRONBRIDGE RD.) & RTE.604 (COURTHOUSE ROAD)	24(4)	1	1	1,525	200	150	2	450	1,800	575	850	100	1,100	105	1	3	1	1	1	672	3	3	0	1	5	1						
RTE.10 (IRONBRIDGE RD.) & DEERFIELD DR./ LUCY CORR BLVD.	24(5)	1	1	1,150	125	75	2	600	1,350	700	700	110	1,000	125	1	6	1	1	1	672	3	3	0	1	14	1						
TOTAL		3	3	3,625	425	325	6	1,100	4,750	1,275	1,550	310	3,150	285	3	11	3	3	3	2,016	9	9	2	3	26	3						

SUMMARY NOTES:

① Included in the cost of this item is any shifting of signal heads or signs, and any other adjustments / modifications needed for the intersection during construction. It is anticipated that signalization can be maintained through use of the existing and / or proposed permanent signal equipment; however, any temporary wood poles, span wire, or other temporary signal equipment necessary to maintain signalized operations shall be included in the cost of this item. Contractor shall be responsible for adjusting signal timings during lane closures under all phases of construction to minimize queueing at the intersection as directed by the Engineer.

② Soil analysis and foundation designs have not been performed. This pay item assumes each PF-8 foundation will be approximately 4 feet in diameter and 20 feet in depth.

③ Assumes four portable message boards will be used for a duration of 7 days.

④ New controller cabinet shall be TS-2 with Siemens M-50 controller set on the new CF-5 cabinet foundation (no UPS).

PROJECT	SHEET NO.
0010-020-688,C501	24(2)

7/7/2019
8:13:55 PM

_Combined Design.dgn
Plotted By: localuser

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Ramey Kemp & Associates - (804) 217-8560
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
PRELIMINARY PLANS THESE PLANS NOT TO BE USED FOR CONSTRUCTION	VA.	10	0010-020-688,C501	24(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

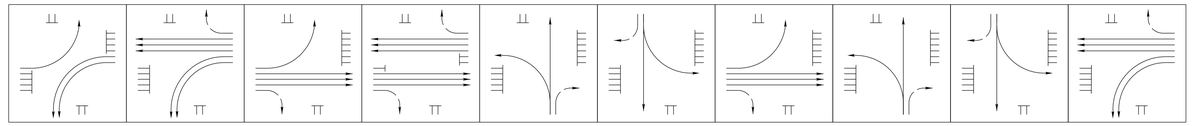
Ramey Kemp & Associates, Inc.
Richmond, Virginia
TRAFFIC ENGINEER

Color Sequence

	SIGNAL	PHASES 1-5	1-6	2-5	2-6	3	4	FLASH
SIGNALS	1	→G	→G					→R
	2			G	G			Y
	3					G →G		R
	3A					G		R
	4						G →G	R
	4A						G	R
	5	→G		→G				→R
	6		G		G			Y

NOTES:
(1) EMPTY BOXES DENOTE A RED OR RED ARROW INDICATION

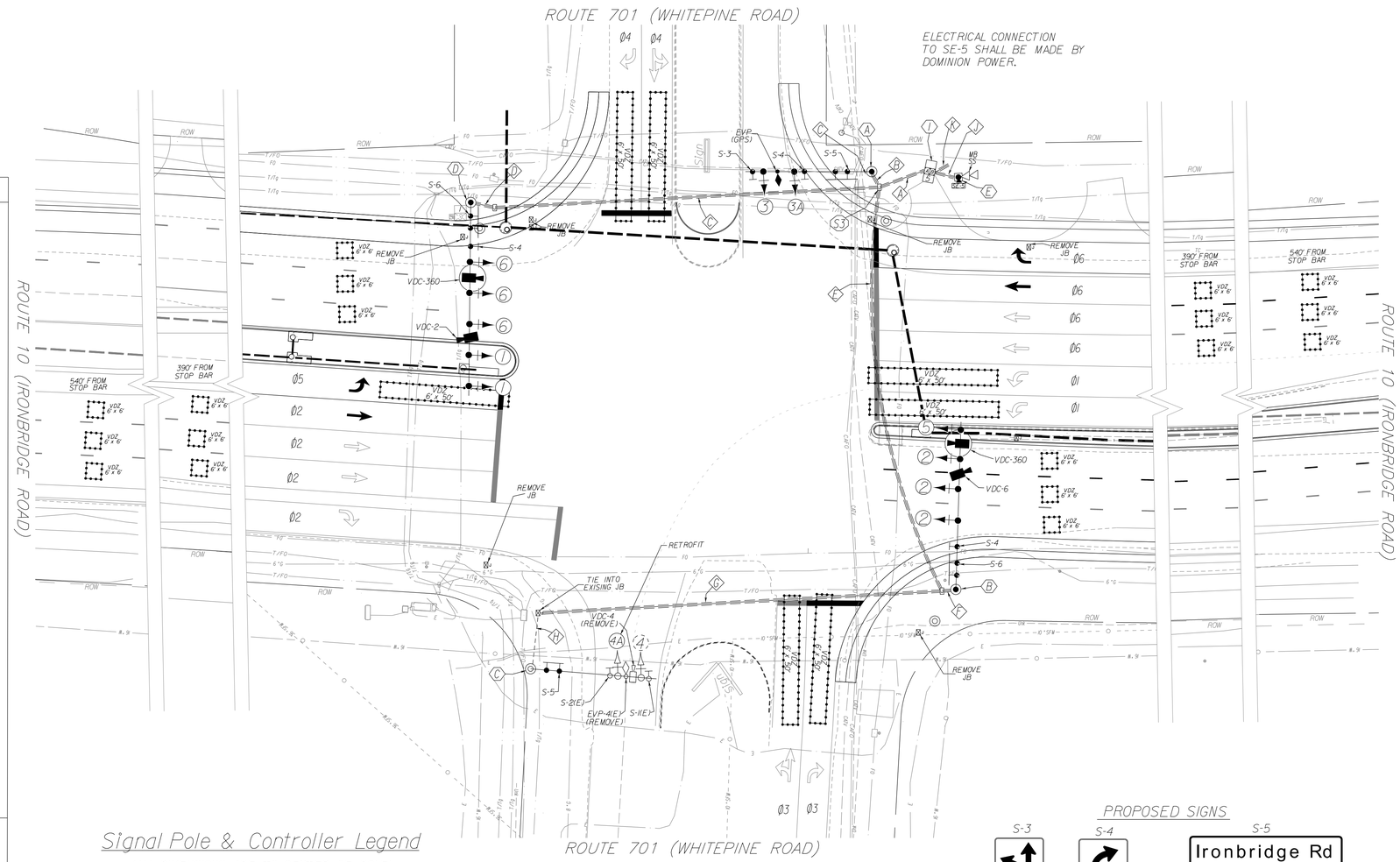
Phasing Diagram



CABLE AND CONDUIT LEGEND

(A) 3" conduit - 6-14/7c,1-EGC
3" conduit - 4- CAT 6 (VDC),1-EPDC,1-EGC
3" conduit - 1-EGC, spare, terminated in JB
3" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
(B) 3" conduit - 1-14/7c,1-EPDC,1-EGC
3" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
(C) 3" bored conduit - 2-14/7c,2- CAT 6 (VDC),1-EGC
3" bored conduit - 1-EGC, spare, terminated in JB
(D) 3" conduit - 2-14/7c,2- CAT 6 (VDC),1-EGC
3" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
(E) 3" bored conduit - 3-14/7c,2- CAT 6 (VDC),1-EGC
3" bored conduit - 1-EGC, spare, terminated in JB
(F) 3" conduit - 2-14/7c,2- CAT 6 (VDC),1-EGC
3" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
2" conduit - 1-EGC, spare, terminated in JB
(G) 3" bored conduit - -14/7c,1-EGC
3" bored conduit - 1-EGC, spare, terminated in JB
(H) 3" conduit (existing) - 1-14/7c,1-VDC (removel),1-EPDC (removel),1-EGC
3" conduit (existing) - 1-EGC, spare, terminated in JB
2" conduit (existing) - 1-EGC, spare, terminated in JB
2" conduit (existing) - 1-EGC, spare, terminated in JB
(J) 3" conduit - 3-8/1c (for SE-5 connection),1-EGC
(K) 1 1/2" metal conduit - minimum 24" stub past foundation, capped

— EGC - Equipment Grounding Conductor
— EPDC - Emergency Preemption Detection Cable
— VDC - Video Detection Cable (CAT 6)
— Remove all existing wires in abandoned conduit



Signal Pole & Controller Legend

(ALL DIMENSIONS ARE TO CENTER OF POLE)

(1) NEW ATC CONTROLLER CABINET & FOUNDATION (CF-5)

(A) MAST ARM POLE (TYPE D)
49' ARM PARALLEL TO RTE.10
Signal Placement: 30', 42'
Sign Placement: 12', 26', 46'
EVP: 37'

(B) MAST ARM POLE (TYPE E1)
65' ARM PERPENDICULAR TO RTE.10
Signal Placement: 27', 39', 51', 62'
Sign Placement: 8', 17'
Camera Placement: 45', 57'

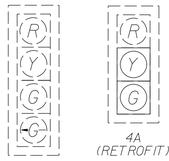
(C) EXISTING MAST ARM POLE (TYPE A)
49' ARM PARALLEL TO RTE.10
Signal Placement: 34'•, 43'•
Sign Placement: 9', 31'•, 46'•
Camera Placement: 40' (REMOVE)
EVP: 37' (REMOVE)

(D) MAST ARM POLE (TYPE E1)
75' ARM PERPENDICULAR TO RTE.10
Signal Placement: 23', 35', 47', 59', 71'
Sign Placement: 8', 17'
Camera Placement: 29', 53'

(E) New Electrical Service, SE-5

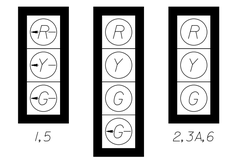
(•) DENOTES EXISTING EQUIPMENT TO REMAIN
NEW EQUIPMENT ON EXISTING POLE UNDERLINED

EXISTING SIGNAL HEADS



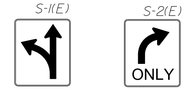
HEAD 4A SHALL BE RETROFITTED WITH A SOLID GREEN AND YELLOW BALL

PROPOSED SIGNAL HEADS



ALL TRAFFIC SIGNAL HEADS SHALL HAVE LED INDICATIONS, ALUMINUM BACKPLATES, AND FULL TUNNEL VISORS

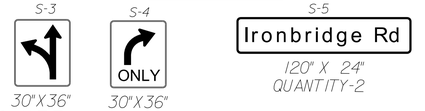
EXISTING SIGNS



30"X36" QUANTITY-1 R3-6L

30"X36" QUANTITY-1 R3-5R

PROPOSED SIGNS



30"X36" QUANTITY-1 R3-6L

30"X36" QUANTITY-3 R3-5R

120" X 24" QUANTITY-2

120" X 24" QUANTITY-2

JUNCTION BOX LEGEND

All Junction Boxes shall conform to St'd. JB-S2 unless otherwise noted on the plans.

(S3) Denotes St'd. JB-S3

SPEED LIMITS

RTE.10 (IRONBRIDGE ROAD)	55 MPH
RTE.701 (WHITEPINE ROAD)	30 MPH

SCALE	PROJECT	SHEET NO.
0 25' 50'	0010-020-688,C501	24(3)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Ramey Kemp & Associates - (804) 217-8560
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
PRELIMINARY PLANS THESE PLANS NOT TO BE USED FOR CONSTRUCTION	VA.	10	0010-020-688,C501	24(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

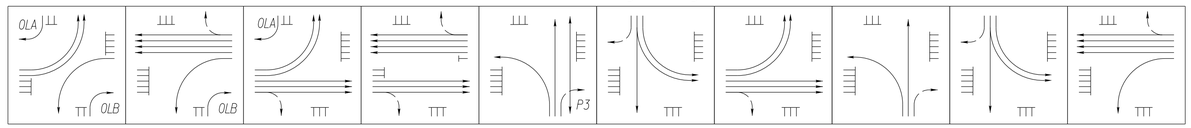
Ramey Kemp & Associates, Inc.
Richmond, Virginia
TRAFFIC ENGINEER

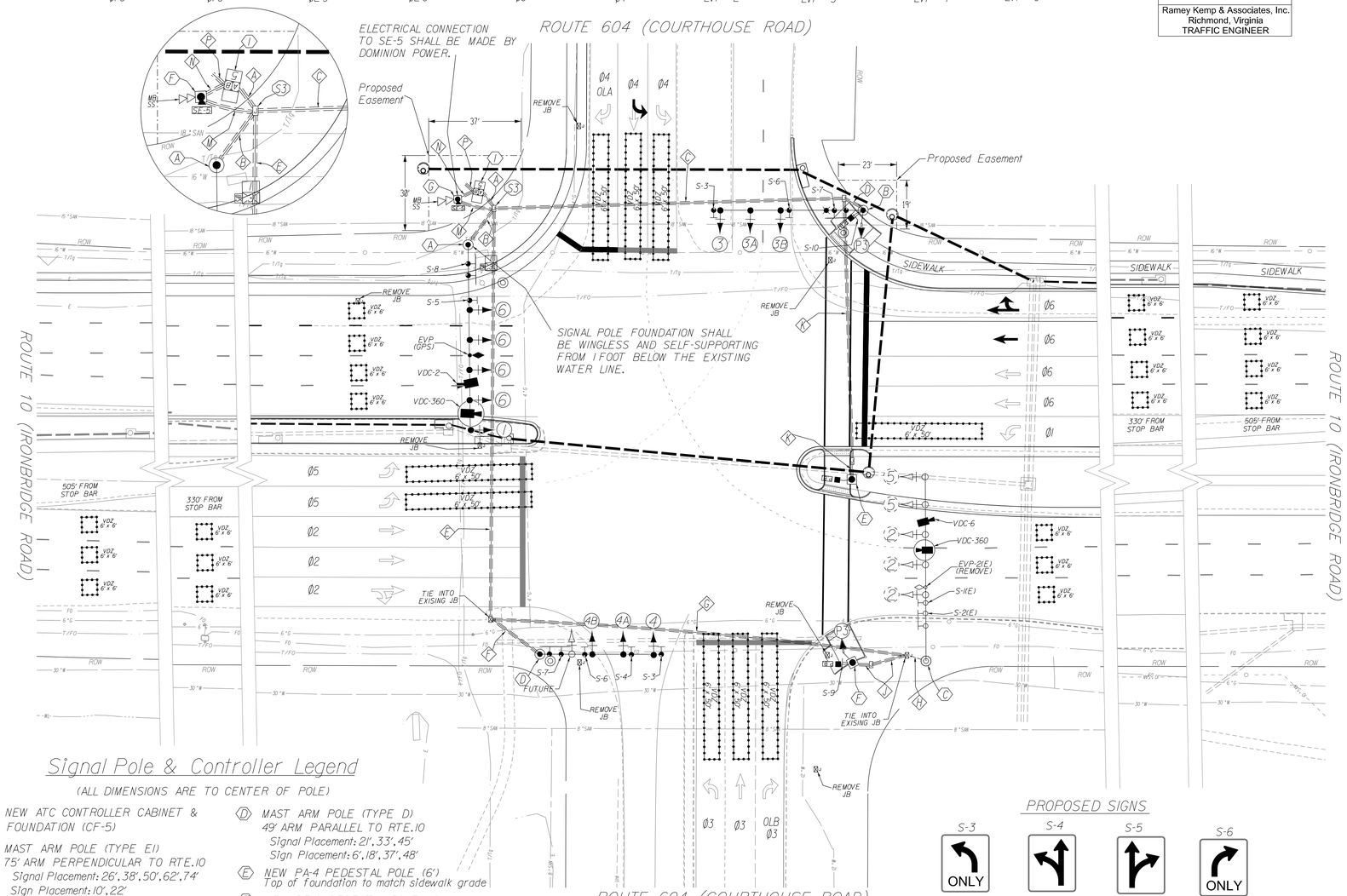
Color Sequence

SIGNALS	SIGNAL	PHASES						FLASH
		1-5	1-6	2-5	2-6	3	4	
	1	→G	→G					→R
	2			G	G			Y
	3					→G		→R
	3A					G		R
	3B	R/G←	R/G←			G		R
	4						→G	→R
	4A						G/→G	R
	4B	R/G←		R/G←			G	R
	5	→G		→G				→R
	6		G		G			Y
	P3	DW	DW	DW	DW	W	DW	BLANK

NOTES:
(1) EMPTY BOXES DENOTE A RED OR RED ARROW INDICATION

Phasing Diagram





CABLE AND CONDUIT LEGEND

(A) 3" conduit - 8-14/7c, 2-14/4c, 3-14/2c(S), I-EGC
3" conduit - 4- CAT 6 (VDC), I-EPDC, I-EGC
3" conduit - I-EGC, spare, terminated in JB
3" conduit - I-EGC, spare, terminated in JB
2" conduit - I-EGC, spare, terminated in JB
2" conduit - I-EGC, spare, terminated in JB

(B) 3" conduit - 2-14/7c, I-EPDC, 2-CAT 6 (VDC), I-EGC
3" conduit - I-EGC, spare, terminated in JB
2" conduit - I-EGC, spare, terminated in JB
2" conduit - I-EGC, spare, terminated in JB

(C) 3" bored conduit - 2-14/7c, I-14/4c, 2-14/2c(S), I-EGC
3" bored conduit - 2-8/1c (lighting), I-EGC
3" bored conduit - I-EGC, spare, terminated in JB

(D) 3" conduit - 2-8/1c (lighting), 2-14/7c, I-14/4c, I-14/2c(S), I-EGC
3" conduit - I-EGC, spare, terminated in JB
2" conduit - I-EGC, spare, terminated in JB
2" conduit - I-EGC, spare, terminated in JB

(E) 3" bored conduit - 4-14/7c, I-14/4c, I-14/2c(S), I-EGC
3" bored conduit - 2-CAT 6 (VDC), I-EGC
3" bored conduit - I-EGC, spare, terminated in JB

(F) 3" conduit - 2-14/7c, I-EGC
3" conduit (existing) - I-EGC, spare, terminated in JB
2" conduit (existing) - I-EGC, spare, terminated in JB
2" conduit (existing) - I-EGC, spare, terminated in JB

(G) 3" bored conduit - 2-14/7c, 2-CAT 6 (VDC), I-EGC
3" bored conduit - I-14/4c, I-14/2c(S), I-EGC
3" bored conduit - I-EGC, spare, terminated in JB

(H) 3" conduit (existing) - 2-14/7c, I-EPDC (REMOVE), 2-CAT 6 (VDC), I-EGC
3" conduit (existing) - I-EGC, spare, terminated in JB
2" conduit (existing) - I-EGC, spare, terminated in JB
1" conduit (existing) - I-EGC, spare, terminated in JB

(J) 3" conduit - I-14/4c, I-14/2c(S), I-EGC
(K) 3" bored conduit - I-14/2c(S), I-EGC
(L) 3" conduit - I-14/2c(S), I-EGC
(M) 3" conduit - 2-8/1c (lighting), I-EGC
(N) 3" conduit - 3-8/1c (for SE-5 connection), I-EGC
(P) 1 1/2" metal conduit - minimum 24" stub past foundation, capped

— EGC - Equipment Grounding Conductor
— EPDC - Emergency Preemption Detection Cable
— VDC - Video Detection Cable (CAT 6)
— (S)- Shielded Cable
— Remove all existing wires in abandoned conduit

Signal Pole & Controller Legend

(ALL DIMENSIONS ARE TO CENTER OF POLE)

(I) NEW ATC CONTROLLER CABINET & FOUNDATION (CF-5)

(A) MAST ARM POLE (TYPE E1)
75' ARM PERPENDICULAR TO RTE.10
Signal Placement: 26', 38', 50', 62', 74'
Sign Placement: 10', 22'
Camera Placement: 55', 67'
EVP: 44'

(B) MAST ARM POLE (TYPE E1)
60' ARM PARALLEL TO RTE.10
Signal Placement: 33', 45', 57'
Sign Placement: 9', 30', 59'

(C) EXISTING MAST ARM POLE (TYPE B1)
75' ARM PERPENDICULAR TO RTE.10
Signal Placement: 26'•, 38'•, 50'•, 62'•, 74'•
Sign Placement: 17'•, 23'•
Camera Placement: 44', 56'
EVP: 29' (REMOVE)

(•) DENOTES EXISTING EQUIPMENT TO REMAIN
NEW EQUIPMENT ON EXISTING POLE UNDERLINED

(D) MAST ARM POLE (TYPE D)
49' ARM PARALLEL TO RTE.10
Signal Placement: 21', 33', 45'
Sign Placement: 6', 18', 37', 48'

(E) NEW PA-4 PEDESTAL POLE (6')
Top of foundation to match sidewalk grade

(F) NEW PF-2 PEDESTAL POLE (12')
Top of foundation to match sidewalk grade

(G) New Electrical Service, SE-5

LIGHTING NOTES: Luminaires on combination poles shall be 120W L.E.D. and installed at a mounting height of 30' - from finished roadway surface to center of luminaire.

The 8/1c conductor cables used for lighting shall terminate in the breaker box attached to the SE-5 electrical service.

Each luminaire head shall have an independent circuit breaker in the breaker box.

PROPOSED SIGNS

S-3: 30"X36" ONLY, QUANTITY-2, R3-5L
S-4: 30"X36", QUANTITY-1, R3-6L
S-5: 30"X36", QUANTITY-1, R3-6R
S-6: 30"X36" ONLY, QUANTITY-2, R3-5R

S-7: Ironbridge Rd, 120" X 24", QUANTITY-2

S-8: Courthouse Rd, 126" X 24", QUANTITY-1

S-9: R10-3E(L), 9"X15", QUANTITY-1

S-10: R10-3E(R), 9"X15", QUANTITY-1

EXISTING SIGNAL HEADS

5
2

PROPOSED SIGNAL HEADS

1,3,4
4A
3A,6
3B,4B
SP-9
P3

ALL TRAFFIC SIGNAL HEADS SHALL HAVE LED INDICATIONS, ALUMINUM BACKPLATES, AND FULL TUNNEL VISORS

EXISTING SIGNS

S-1(E): 30"X36", QUANTITY-1, R3-6R

S-2(E): Courthouse Rd, 102" X 18", QUANTITY-1

JUNCTION BOX LEGEND

All Junction Boxes shall conform to Std. JB-S2 unless otherwise noted on the plans.

(S3) Denotes Std. JB-S3

SPEED LIMITS

RTE.10 (IRONBRIDGE ROAD)	45 MPH
RTE.604 (COURTHOUSE ROAD)	45 MPH

SCALE	PROJECT	SHEET NO.
0 25' 50'	0010-020-688,C501	24(4)

PROJECT MANAGER Steve Adams - Chesterfield County Transportation - (804)751-4661
SURVEYED BY, Dewberry Engineers Inc., 4/18
DESIGNED BY Ramey Kemp & Associates - (804) 217-8560
SUBSURFACE UTILITY BY, Accumark, Inc., 6/18

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	10	0010-020-688,C501	24(5)

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

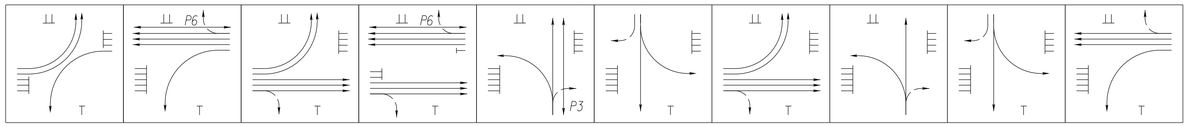
Ramey Kemp & Associates, Inc.
Richmond, Virginia
TRAFFIC ENGINEER

Color Sequence

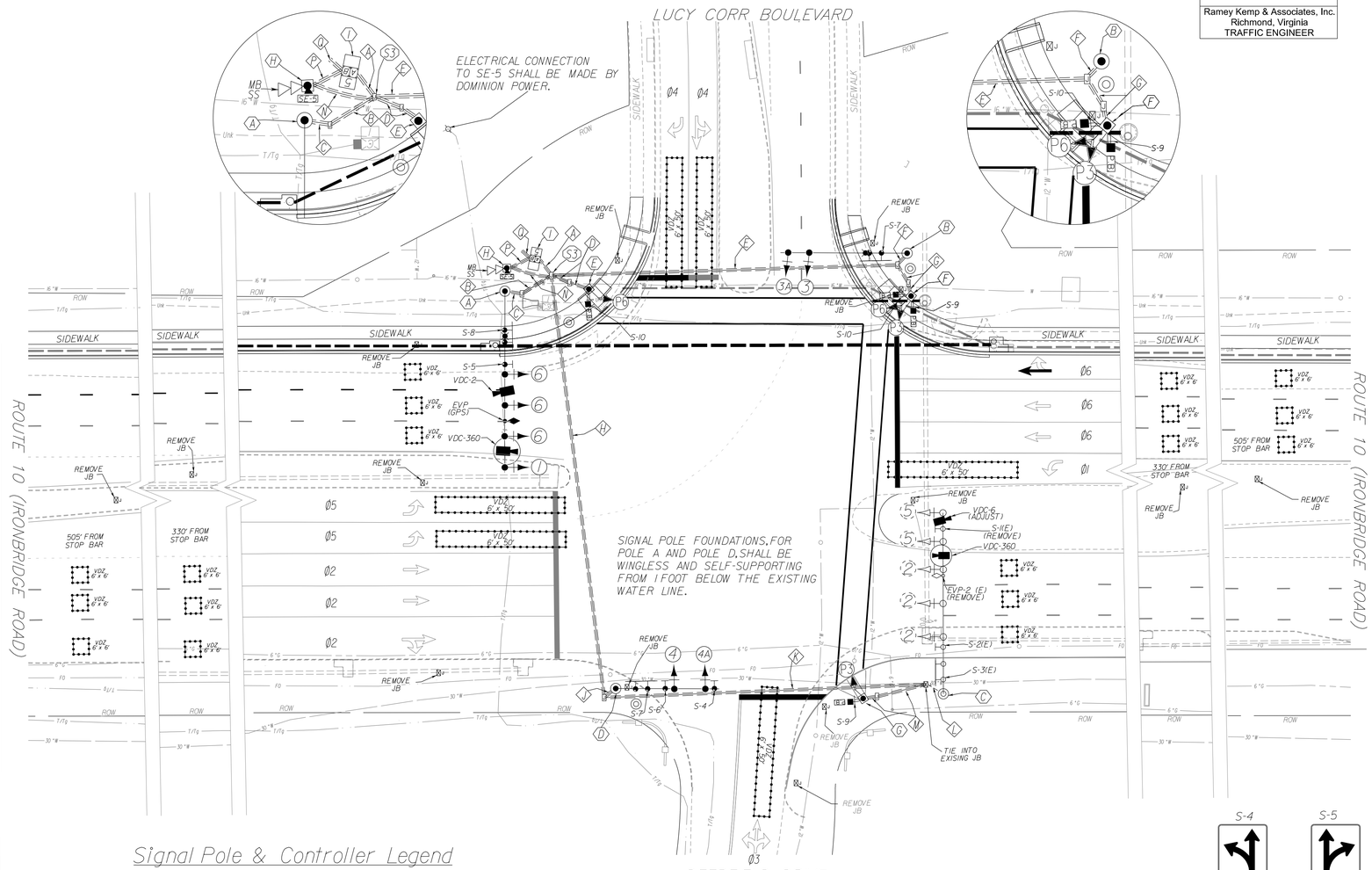
	SIGNAL	PHASES 1-5	1-6	2-5	2-6	3	4	FLASH
SIGNALS	1	→G	→G					→R
	2			G	G			Y
	3					G		R
	3A					G →G		R
	4						G	R
	4A						G →G	R
	5	→G		→G				→R
	6		G		G			Y
	P3	DW	DW	DW	DW	W	DW	BLANK
	P6	DW	W	DW	W	DW	DW	BLANK

NOTES:
(1) EMPTY BOXES DENOTE A RED OR RED ARROW INDICATION

Phasing Diagram



Ø1-5 Ø1-6 Ø2-5 Ø2-6 Ø3 Ø4 EVP - 2 EVP - 3 EVP - 4 EVP - 6



CABLE AND CONDUIT LEGEND

- (A) 3" conduit - 6-14/7c, 4-14/4c, 4-14/2c(S), I-EGC
  3" conduit - 4- CAT 6 (VDC), I-EPDC, I-EGC
  3" conduit - I-EGC, spare, terminated in JB
  3" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
- (B) 3" conduit - 2-14/7c, I-EPDC, 2- CAT 6 (VDC), I-EGC
  3" conduit - 2-8/lc (lighting), I-EGC
- (C) 3" conduit - 2-8/lc (lighting), 2-14/7c, I-EPDC, 2-CAT 6 (VDC), I-EGC
  3" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
- (D) 3" conduit - 1-14/4c, 1-14/2c(S), I-EGC
- (E) 3" bored conduit - 1-14/7c, 2-14/4c, 2-14/2c(S), I-EGC
  3" bored conduit - 2-8/lc (lighting), I-EGC
  3" bored conduit - I-EGC, spare, terminated in JB
- (F) 3" conduit - 2-8/lc (lighting), 1-14/7c, I-EGC
  3" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
- (G) 3" conduit - 2-14/4c, 2-14/2c(S), I-EGC
- (H) 3" bored conduit - 3-14/7c, I-EGC
  3" bored conduit - 1-14/4c, 1-14/2c(S), 2-CAT 6 (VDC), I-EGC
  3" bored conduit - I-EGC, spare, terminated in JB
- (J) 3" conduit - 1-14/7c, I-EGC
  3" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
  2" conduit - I-EGC, spare, terminated in JB
- (K) 3" bored conduit - 2-14/7c, 2-CAT 6 (VDC), 1-14/4c, 1-14/2c(S), I-EGC
  3" bored conduit - I-EGC, spare, terminated in JB
- (L) 3" conduit (existing) - 2-14/7c, 2-CAT 6 (VDC), I-EPDC (remove), I-EGC
  2" conduit (existing) - I-EGC, spare, terminated in JB
  2" conduit (existing) - I-EGC, spare, terminated in JB
  1" conduit (existing) - I-EGC, spare, terminated in JB
- (M) 3" conduit - 1-14/4c, 1-14/2c(S), I-EGC
- (N) 3" conduit - 4-8/lc (lighting), I-EGC
- (P) 3" conduit - 3-8/lc (for SE-5 connection), I-EGC
- (Q) 1 1/2" metal conduit - minimum 24" stub past foundation, capped

— EGC - Equipment Grounding Conductor
— EPDC - Emergency Preemption Detection Cable
— VDC - Video Detection Cable (CAT 6)
— (S)- Shielded Cable
— Remove all existing wires in abandoned conduit

Signal Pole & Controller Legend

(ALL DIMENSIONS ARE TO CENTER OF POLE)

(1) NEW ATC CONTROLLER CABINET & FOUNDATION (CF-5)

(A) MAST ARM POLE (TYPE E)
70' ARM PERPENDICULAR TO RTE.10
Signal Placement: 32', 44', 56', 68'
Sign Placement: 17', 28'
Camera Placement: 39', 62'
EVP: 50'

(B) MAST ARM POLE (TYPE D)
49' ARM PARALLEL TO RTE.10
Signal Placement: 38', 46'
Sign Placement: 12'

(C) EXISTING MAST ARM POLE (TYPE B)
70' ARM PERPENDICULAR TO RTE.10
Signal Placement: 22'•, 35'•, 48'•, 59'•, 70'•
Sign Placement: 9'•, 18'•, 64' (REMOVE)
Camera Placement: 54', 67'*
EVP: 46'• (REMOVE)

(D) MAST ARM POLE (TYPE D)
40' ARM PARALLEL TO RTE.10
Signal Placement: 23', 35'
Sign Placement: 10', 19', 38'

(E) NEW PF-2 PEDESTAL POLE (12')
Top of foundation to match sidewalk grade

(F) NEW PF-2 PEDESTAL POLE (12')
Top of foundation to match sidewalk grade

(G) NEW PF-2 PEDESTAL POLE (12')
Top of foundation to match sidewalk grade

(H) New Electrical Service, SE-5

(•) DENOTES EXISTING EQUIPMENT TO REMAIN
(*) DENOTES EXISTING EQUIPMENT TO BE ADJUSTED
NEW EQUIPMENT ON EXISTING POLE UNDERLINED

LIGHTING NOTES: Luminaires on combination poles shall be 120W L.E.D. and installed at a mounting height of 30' - from finished roadway surface to center of luminaire.

The 8/lc conductor cables used for lighting shall terminate in the breaker box attached to the SE-5 electrical service.

Each luminaire head shall have an independent circuit breaker in the breaker box.

JUNCTION BOX LEGEND

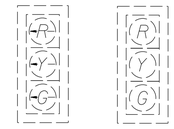
All Junction Boxes shall conform to St'd. JB-S2 unless otherwise noted on the plans.

(S3) Denotes St'd. JB-S3

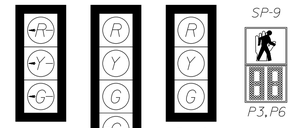
SPEED LIMITS

RTE.10 (IRONBRIDGE ROAD)	45 MPH
DEERFIELD DRIVE	25 MPH
LUCY CORR BOULEVARD	35 MPH

EXISTING SIGNAL HEADS

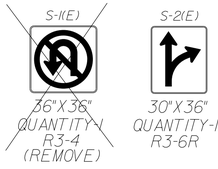


PROPOSED SIGNAL HEADS



3A,4A
ALL TRAFFIC SIGNAL HEADS SHALL HAVE LED INDICATIONS, ALUMINUM BACKPLATES, AND FULL TUNNEL VISORS

EXISTING SIGNS

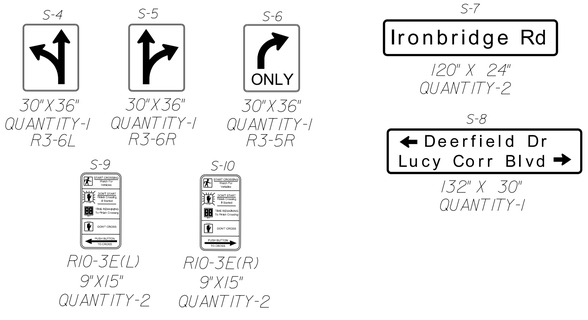


S-1(E) 36"X36" QUANTITY-1 R3-4 (REMOVE)

S-2(E) 30"X36" QUANTITY-1 R3-6R

S-3(E)
← Lucy Corr Blvd
Deerfield Dr →
120" X 30"
QUANTITY-1

PROPOSED SIGNS



S-4 30"X36" QUANTITY-1 R3-6L

S-5 30"X36" QUANTITY-1 R3-6R

S-6 30"X36" QUANTITY-1 R3-5R

S-7 120" X 24" QUANTITY-2

S-8 132" X 30" QUANTITY-1

S-9 R10-3E(L) 9"X15" QUANTITY-2

S-10 R10-3E(R) 9"X15" QUANTITY-2

SCALE	PROJECT	SHEET NO.
0 25' 50'	0010-020-688,C501	24(5)